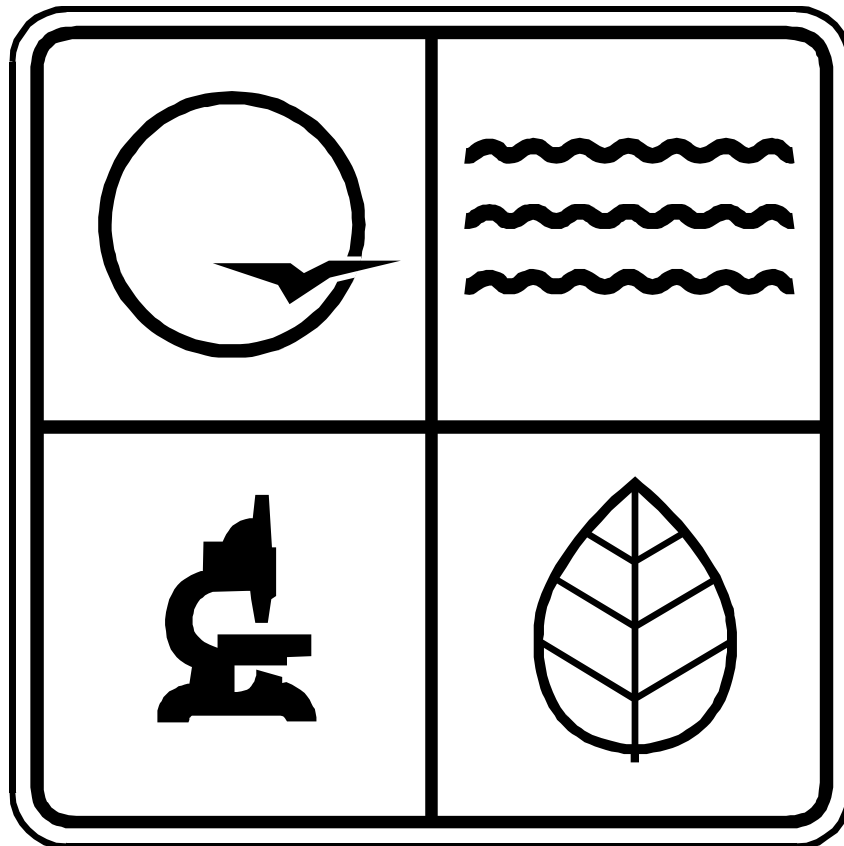


# **UNDERSTANDING ENVIRONMENTAL REGULATIONS AND PERMITS**

**December 15, 2004**

**Missouri Department of Natural Resources  
Environmental Assistance Office  
1-800-361-4827  
573-526-6627**



# TABLE OF CONTENTS

<b>UNDERSTANDING ENVIRONMENTAL REGULATIONS AND PERMITS .....</b>	<b><i>i</i></b>
<b>INTRODUCTION.....</b>	<b><i>1</i></b>
<b>ORGANIZATION.....</b>	<b>1</b>
<b>ASSISTANCE .....</b>	<b>2</b>
<b>ACRONYMS .....</b>	<b>4</b>
<b>AIR POLLUTION CONTROL.....</b>	<b>7</b>
<b>NONATTAINMENT AREAS .....</b>	<b>7</b>
<b>PERMITS .....</b>	<b>8</b>
<b>ASBESTOS REMOVAL NOTIFICATIONS .....</b>	<b>11</b>
<b>TABLE I DE MINIMIS EMISSION LEVELS .....</b>	<b>12</b>
<b>TABLE II LIST OF NAMED INSTALLATIONS.....</b>	<b>13</b>
<b>TABLE III CONSTRUCTION PERMIT EXEMPTIONS .....</b>	<b>14</b>
<b>ENVIRONMENTAL SERVICES .....</b>	<b>17</b>
<b>SPILL REPORTING .....</b>	<b>17</b>
<b>RISK MANAGEMENT PROGRAM .....</b>	<b>17</b>
Purpose-----	18
Requirements-----	18
Who is Covered?-----	18
<b>DAM AND RESERVOIR SAFETY .....</b>	<b>20</b>
<b>PERMITS .....</b>	<b>20</b>
<b>HAZARDOUS WASTE MANAGEMENT.....</b>	<b>21</b>
<b>DEFINITION .....</b>	<b>21</b>
<b>PERMITS .....</b>	<b>22</b>
<b>RESOURCE RECOVERY CERTIFICATION .....</b>	<b>22</b>
<b>HAZARDOUS WASTE TRANSPORTER.....</b>	<b>22</b>
<b>HAZARDOUS WASTE GENERATOR REGISTRATION .....</b>	<b>22</b>
<b>UNIVERSAL WASTE .....</b>	<b>23</b>
Definition -----	23
Universal Waste Handlers -----	23
<b>USED OIL .....</b>	<b>24</b>
<b>UNDERGROUND STORAGE TANKS .....</b>	<b>25</b>
<b>ABOVEGROUND STORAGE .....</b>	<b>25</b>
<b>LAND RECLAMATION.....</b>	<b>27</b>
<b>PERMITS .....</b>	<b>27</b>

<b><i>PESTICIDES</i></b> .....	<b>29</b>
<b>CERTIFIED COMMERCIAL/NONCOMMERCIAL APPLICATOR AND CERTIFIED         PUBLIC OPERATOR LICENSES</b> .....	<b>29</b>
<b>CERTIFIED PRIVATE APPLICATOR LICENSE</b> .....	<b>30</b>
<b>PESTICIDE TECHNICIAN LICENSE</b> .....	<b>31</b>
<b>PESTICIDE DEALER LICENSE</b> .....	<b>31</b>
<b>PESTICIDE APPLICATOR TRAINING PROGRAMS</b> .....	<b>31</b>
<b>RECERTIFICATION/RECIPROCITY</b> .....	<b>32</b>
<b>ENFORCEMENT &amp; INSPECTIONS</b> .....	<b>32</b>
<b>PESTICIDE REGISTRATION</b> .....	<b>32</b>
<b>DISPOSAL</b> .....	<b>33</b>
<b><i>POLLUTION PREVENTION</i></b> .....	<b>34</b>
<b>WHAT IS POLLUTION PREVENTION?</b> .....	<b>34</b>
<b>WHY PREVENT POLLUTION?</b> .....	<b>34</b>
<b><i>PUBLIC DRINKING WATER</i></b> .....	<b>35</b>
<b>DRINKING WATER SYSTEMS</b> .....	<b>35</b>
<b>PERMITS</b> .....	<b>35</b>
<b><i>SOLID WASTE MANAGEMENT</i></b> .....	<b>36</b>
<b>PERMITS</b> .....	<b>36</b>
Solid Waste Disposal Area Construction and Operating .....	36
Solid Waste Processing Facility .....	36
Infectious Waste Processing Facility Construction and Operating .....	36
Waste Tire Collection Center .....	37
Waste Tire Hauler .....	37
Waste Tire Processing Facility .....	37
Waste Tire Site .....	37
Waste Tire End-User Facility Registration .....	37
<b>WASTE DIVERSION THROUGH THE THREE R'S</b> .....	<b>37</b>
<b>FINANCIAL INCENTIVES</b> .....	<b>38</b>
<b>WASTE EXCHANGES</b> .....	<b>38</b>
<b><i>TIER II REPORTING</i></b> .....	<b>39</b>
<b>PURPOSE</b> .....	<b>39</b>
<b>REQUIREMENTS</b> .....	<b>40</b>
<b><i>TOXICS RELEASE INVENTORY</i></b> .....	<b>42</b>
<b>OVERVIEW</b> .....	<b>42</b>
<b>PURPOSE</b> .....	<b>43</b>
<b>REQUIREMENTS</b> .....	<b>43</b>

<b>TOXIC SUBSTANCE CONTROL ACT (TSCA).....</b>	<b>45</b>
<b>TESTING OF CHEMICALS .....</b>	<b>45</b>
<b>NOTIFICATION .....</b>	<b>46</b>
<b>DISPOSAL .....</b>	<b>46</b>
<b>ENFORCEMENT .....</b>	<b>47</b>
<b>ASSISTANCE .....</b>	<b>47</b>
<b>TSCA AMENDMENTS – RADON AND LEAD-BASED PAINT .....</b>	<b>47</b>
<b>WATER POLLUTION CONTROL.....</b>	<b>49</b>
<b>PERMITS .....</b>	<b>49</b>
Wastewater Construction Permit .....	49
Industrial Pretreatment Permit .....	50
National Pollutant Discharge Elimination System (NPDES) .....	50
404 Permit .....	51
<b>SLUDGE .....</b>	<b>52</b>
Compliance .....	52
Construction Permits .....	52
Operating Permits.....	53
Disposal and Reuse Requirements.....	53
Septage Requirements.....	53
Recordkeeping and Reporting.....	53
<b>WELLHEAD PROTECTION.....</b>	<b>55</b>
<b>PERMITS .....</b>	<b>55</b>
<b>REPORTS .....</b>	<b>55</b>
<b>REGIONAL OFFICES.....</b>	<b>57</b>
<b>SATELLITE OFFICES.....</b>	<b>58</b>
<b>LOCAL AIR POLLUTION CONTROL AUTHORITIES.....</b>	<b>59</b>
<b>ENVIRONMENTAL ASSISTANCE OFFICE BUSINESS UNIT STAFF.....</b>	<b>60</b>
<b>DEFINITIONS .....</b>	<b>61</b>

# INTRODUCTION

This document is designed as a guide for businesses and other facilities to identify permits they may need from the Missouri Department of Natural Resources, Water Protection and Soil Conservation, and of Air and Land Protection divisions. Also in this guide are federal regulations and programs that are enforced primarily by the U.S. Environmental Protection Agency (EPA). Some businesses and facilities that may require environmental permits are: auto body shops, campgrounds, dry cleaners, gasoline service stations, grain elevators, mobile home parks, motor vehicle salvage yards, print shops, rock quarries, sawmills, colleges and hospitals.

The federal regulations referred to in this document for EPA can be found in Title 40 of the Code of Federal Regulations (CFR). The CFRs are available from the U.S. Government Printing Office, the local library, or on the Internet at <http://www.gpoaccess.gov/cfr/index.html>.

The regulations for the Missouri Department of Natural Resources are found in Title 10 of the Missouri Code of State Regulations (CSR). The CSRs are available from the Secretary of State's

Office at:

Office of Secretary of State  
Administrative Rules Division  
P.O. Box 1767  
Jefferson City, MO 65102  
(573) 751-4015 (Voice)  
(573) 751-3032 (Fax)  
(800) 735-2966 (TDD)

The CSRs can also be found on the Internet at <http://www.sos.mo.gov/adrules/csr/csr.asp>.

## ORGANIZATION

The Department of Natural Resources has five divisions. These divisions are Water Protection and Soil Conservation, Air and Land Protection, State Parks, Geological Survey and Resource Assessment and Administrative Support. In addition, the Outreach and Assistance Center is located in the Director's Office. The Water Protection and Soil Conservation Division (WPSCD) consists of four programs: Water Protection Program (WPP), Soil and Water Conservation Program (SWCP) and the Regional Offices. The five regional offices are located in Kansas City, Macon, Poplar Bluff, St. Louis and Springfield. There are also seven satellite offices throughout the state. They are located in Branson, Festus, LaGrange, Neosho, Osage Beach, Sullivan and Troy. The Air and Land Protection Division (ALPD) consists of five programs: Air Pollution Control Program (APCP), Environmental Services Program (ESP), Hazardous Waste Program (HWP), Solid Waste Management Program (SWMP) and Land Reclamation Program (LRP). The Geological Survey and Resource Assessment Division (GSRAD) consists of four programs: Geological Survey, Water Resources, Land Survey and Administrative programs.

### ASSISTANCE

The **Outreach and Assistance Center** (OAC) was set up to increase the department's flexibility in responses to citizen concerns, questions, requests and emergencies. The OAC integrates the services provided that directly assist citizens, businesses and communities. It is managed by the Director's Office. The OAC consists of the following groups: Environmental Assistance Office (EAO), Missouri Energy Center (MEC), Community Assistance Office (CAO), State Historic Preservation Office (SHPO), Communication and Education Office (CEO) and the Urban Outreach Offices in St. Louis and Kansas City.

The **Environmental Assistance Office** is a nonregulatory group that provides assistance, information, education and training to help Missouri's businesses, local governments, agricultural operations, wastewater operators and the general public understand and comply with environmental regulations and statutes. This information is provided through telephone conversations, environmental workshops, meetings, presentations, training and publications. EAO also conducts site visits and detailed compliance and pollution prevention assessments.

The **business assistance unit** within EAO aids businesses in Missouri with compliance issues for air pollution, water pollution, drinking water, hazardous waste management, land reclamation and solid waste management. It also assists facilities in completing the Toxics Release Inventory (TRI) forms. Pollution prevention opportunities are provided as well. Much of the unit's assistance includes holding workshops, on-site meetings and assessments, and answering questions. The unit publishes *TAP Into DNR*, a quarterly newsletter addressing environmental questions, new and changing regulations, and upcoming events. The unit also publishes *TankWise*, a biannual newsletter addressing the concerns of the regulated tank community.

The **rural outreach unit** addresses issues specific to rural areas. They provide technical assistance to rural businesses, farms and people living in rural areas. This unit provides environmental permit and letter of approval application guidance, environmental evaluation of facilities, animal waste disposal operations assistance, secondary containment assistance, TMDL/watershed facilitation and assistance, assistance on environmental management systems for rural activities, erosion and sediment training for land disturbance sites, pesticide training and air pollution control guidance for agricultural chemical facilities.

The **government assistance unit** provides assistance for municipalities, counties, drinking water and sewer districts, and other local government entities. Guidance relates to compliance with environmental regulations, user charge assistance and financial opportunities including grant and loan application assistance. The unit also conducts the Environmental Management Institute (EMI) and Rate-Maker workshops. The EMI is designed to help local government leaders make better environmental decisions. The Rate Maker workshop shows participants how to use the provided software to calculate rates for drinking water and wastewater.

The **operator certification and training unit** coordinates the certification and training of Missouri's drinking water operators, wastewater operators and staff responsible for large animal feeding operations. The unit also publishes a bimonthly newsletter, the *Water and Wastewater*

## INTRODUCTION

*Digest*, that keeps operators informed of upcoming training and periodic changes in the regulations.

The **support assistance unit** provides support to the other units in EAO. It helps the other EAO units provide technical assistance to our constituents.

All of the units encourage reducing or eliminating pollutants before they are created. This eliminates the need to treat or dispose of the pollutant or waste later. They provide information and assistance to businesses and the public to encourage the reduction of the use of hazardous material (including household hazardous waste), energy, water and other resources to reduce pollution and waste.

The **on-site assessment team** consists of members from the rural assistance, business assistance, government assistance units, and a pollution prevention specialist. It provides on-site assessments for individual facilities. An assessment is a multimedia environmental evaluation of a facility.

“Environmental Permits and How To Obtain Them” outlines individual environmental permits, certifications, registrations and licenses. It indicates the permit length, processing time, renewal fees and other specific permit issues. Information on permit transfers can be found in “A Guide To Missouri Department of Natural Resources Permit Transfers” located at <http://www.dnr.mo.gov/oac/pub541.pdf>

“Environmental Permits and How To Obtain Them” can be used in conjunction with “Understanding Environmental Regulations and Permits” for detailed permit information. “Environmental Permits and How to Obtain Them” is found on the Web at <http://www.dnr.mo.gov/oac/pub98.pdf>. “Understanding Environmental Regulations and Permits” may be found on the Web at <http://www.dnr.mo.gov/oac/pub595.pdf>.

Questions concerning this document or environmental issues may be directed to:  
Environmental Assistance Office (EAO)

P. O. Box 176

Jefferson City, MO 65102-0176

(573) 526-6627

(800) 361-4827 toll-free

(573) 526-5808 fax

Visit EAO’s Web site at <http://www.dnr.mo.gov/oac/index.html>.

## ACRONYMS

<b>Acronym</b>	<b>Description</b>
ALPD	Air and Land Protection Division
APCP	Air Pollution Control Program
API	American Petroleum Institute
AST	Aboveground Storage Tank
ASTM	American Society for Testing and Materials
ATG	Automatic Tank Gauge
ATRS	Automatic TRI Reporting Software
BACT	Best Achievable Control Technology
BEMI	Business Environmental Management Institute
BMP	Best Management Practices
BTEX	Benzene, Toluene, Ethyl Benzene, Xylene
CAA	Clean Air Act
CAAA	Clean Air Act Amendments of 1990
CAFO	Concentrated Animal Feeding Operations
CALM	Cleanup Levels for Missouri
CEPPO	Chemical Emergency Preparedness & Prevention Office
CERCLA	Comprehensive Environmental Response, Compensation & Liability Act
CESQG	Conditionally Exempt Small Quantity Generator
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CP	Cathodic Protection
CSR	Code of State Regulations
DED	Department of Economic Development
DHSS	Department of Health and Senior Services
EHS	Extremely Hazardous Substance
EIERA	Environmental Improvement and Energy Recovery Authority
EIQ	Emissions Inventory Questionnaire
EMI	Environmental Management Institute
EMS	Environmental Management System
EPA	Environmental Protection Agency
EPCRA	Emergency Planning Community Right-to-Know Act
ESP	Environmental Services Program
FAI	Financial Assurance Instrument
FAQ	Frequently Asked Questions
FR	Federal Register
FRP	Fiberglass Reinforced Plastic
gpd	Gallons per Day
GSRAD	Geological Survey and Resource Assessment Division
GW	Groundwater
HAPs	Hazardous Air Pollutants
HWP	Hazardous Waste Program

## INTRODUCTION

<b>Acronym</b>	<b>Description</b>
ISO	International Standards Organization
LAER	Lowest Achievable Emission Rate
lbs.	Pounds
LEPC	Local Emergency Planning Committee
LEPD	Local Emergency Planning District
LQG	Large Quantity Generator
LQH	Large Quantity Handler
LRP	Land Reclamation Program
LUST	Leaking Underground Storage Tank
MACC	Missouri Air Conservation Commission
MACT	Maximum Achievable Control Technology
MDA	Missouri Department of Agriculture
MEK	Methyl Ethyl Ketone
MEMP	Missouri Environmental Management Partnership
MERC	Missouri Emergency Response Commission
MHDR	Maximum Hourly Design Rate
MoEIS	Missouri Emissions Inventory System
MSDS	Material Safety Data Sheet
MSW	Municipal Solid Waste
MTBE	Methyl Tertiary Butyl Ether
NAAQS	National Ambient Air Quality Standards
NACE	National Association of Corrosion Engineers
NESHAP	National Emission Standard for Hazardous Air Pollutants
NLIC	National Lead Information Center
NOx	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NSPS	New Source Performance Standard
OSHA	Occupational Safety and Health Administration
P2	Pollution Prevention
PBT	Chemicals that are persistent in the environment, bioaccumulative and highly toxic
PCB	Polychlorinated Biphenyl
PDWB	Public Drinking Water Branch
P.E.	Professional Engineer
pH	Measure of Acidity or Alkalinity (0-6 Acid; 7 Neutral; 8-14 Alkaline)
PL	Public Law
PM <sub>10</sub>	Particulate Matter, 10 microns diameter or smaller (dust)
PM <sub>2.5</sub>	Particulate Matter, 2.5 microns diameter or smaller (dust)
POTW	Publicly Owned Treatment Works
PPA	Pollution Prevention Act
ppb	Parts per Billion = microgram/liter (liquid) or microgram/kilogram (solid)
ppm	Parts per Million = milligram/liter (liquid) or milligram/kilogram (solid)
PSTIF	Petroleum Storage Tank Insurance Fund
PTE	Potential to Emit (also called Potential Emissions)

## INTRODUCTION

<b>Acronym</b>	<b>Description</b>
RACT	Reasonably Achievable Control Technology
RBCA	Risk-Based Corrective Action
RCRA	Resource Conservation and Recovery Act
RMI	Resource Management Institute
RMP	Risk Management Plan/Program
RQ	Reportable Quantity
RSMo.	Revised Statutes of Missouri
SARA	Superfund Amendments and Reauthorization Act
SCC	Source Classification Code
SEMA	State Emergency Management Agency
SIC	Standard Industrial Classification
SIR	Statistical Inventory Reconciliation
SO <sub>x</sub>	Sulfur Oxides
SPCC	Spill Prevention, Control and Countermeasure
SQG	Small Quantity Generator
SQH	Small Quantity Handler
SWCP	Soil and Water Conservation Program
SWMP	Solid Waste Management Program
EAO	Environmental Assistance Office
TCLP	Toxicity Characteristic Leaching Procedure
TPH	Total Petroleum Hydrocarbons
TPQ	Threshold Planning Quantity
TRI	Toxic Release Inventory
TSD	Treatment, Storage, Disposal facility
UST	Underground Storage Tank
VCP	Voluntary Cleanup Program
VOC	Volatile Organic Compounds
WHP	Wellhead Protection Section
WPP	Water Protection Program
WPSCD	Water Protection and Soil Conservation Division
www	World Wide Web

# AIR POLLUTION CONTROL

Air pollution sources in Missouri are regulated by the Missouri Department of Natural Resources, Air and Land Protection Division - Air Pollution Control Program (APCP) and the U.S. Environmental Protection Agency (EPA). They administer programs created by the federal **Clean Air Act (CAA), Clean Air Act Amendments (CAAA) and** Missouri Air Conservation Law.

The department's Air Pollution Control Program (APCP) administers the federal program and enforces state-only regulations that are considered beneficial to the health and well being of citizens. These state-only air regulations limit opacity, dust emissions, and prohibit odorous emissions. The primary state enabling legislation is the Missouri Air Conservation Law found in Chapter 643 (RSMo). The portion of the Code of State Regulations (CSR) that governs and outlines the program's responsibilities is recorded in 10 CSR 10. There are four local government agencies that also have the authority to regulate air emissions: City of Kansas City, City of Springfield, City of St. Louis and County of St. Louis.

CAA requirements include:

*National Ambient Air Quality Standards (NAAQS)* are health-based standards applied to six "criteria pollutants": carbon monoxide, lead, nitrogen oxides, ozone, particulates and sulfur oxides.

*National Emission Standards for Hazardous Air Pollutants (NESHAP)*, which are also health-based standards, apply to 188 hazardous pollutants not covered by NAAQS including, but not limited to, asbestos, benzene, beryllium, inorganic arsenic, mercury, radionuclides and vinyl chloride.

*New Source Performance Standards (NSPS)* are technology-based minimum standards that limit emissions of regulated pollutants from newly built facilities and some existing facilities that undergo modification.

Regulations that phased out stratospheric ozone depleting chemicals: CFC, halons, carbon tetrachloride, methyl chloroform and hydrofluorocarbons.

Reduction in hazardous pollutant emissions. Major sources of hazardous air pollutants may be subject to *Maximum Achievable Control Technology (MACT)* (new and existing sources) and, if so, will be expected to reduce hazardous pollutant emissions by 90 percent or more.

Urban smog decreased by reducing emissions from small businesses as well as large factories and vehicles.

## NONATTAINMENT AREAS

Under the NAAQS program, geographic areas that violate the standard for one or more criteria pollutants are called nonattainment areas. In nonattainment areas, new facilities and major modifications to existing facilities must meet the *Lowest Achievable Emission Rate (LAER)*. The

## AIR POLLUTION CONTROL

*LAER* is defined as the most stringent emissions limitation achieved in practice or required by regulation for that type of facility.

In addition, to avoid increasing the total amount of a criteria pollutant in a nonattainment area, a new major facility or major addition must offset whatever emissions it intends to emit. Offsetting is defined as reducing the actual emissions of a regulated air pollutant from a source operation in an amount greater than the proposed new construction will emit. For VOCs and NO<sub>x</sub>, the offsetting ratio must be greater than 1:1, depending on the severity classification of the nonattainment area.

In Missouri, there is a moderate nonattainment area for the 8-hour ozone standard consisting of Franklin, Jefferson, St. Charles and St. Louis counties and the City of St. Louis. The three nonattainment areas for lead include the city of Herculaneum in Jefferson County, and Dent, Liberty and Arcadia townships in Iron County.

### PERMITS

**Construction permits** are issued by the Air and Land Protection Division – Air Pollution Control Program (APCP). All new installations built after May 13, 1982, with the potential to emit (PTE) a regulated air pollutant in an amount equal to or greater than the *de minimis* (threshold) level are required to obtain a construction permit. Construction permits are required prior to starting construction. Construction permits are also required for existing facilities when the construction, modification or addition has the potential to emit a regulated air contaminant at the *de minimis* level or above. All incinerators must have a permit, regardless of emission levels (except for non-commercial dead animal incinerators, which are exempt). The regulated air pollutants and the *de minimis* emissions levels are listed in Table I of this document.

Some facilities or processes that are required to get a construction permit are allowed to receive a “permit by rule” which only requires submitting a notification and paying a fee of \$700. This is described in 10 CSR 10-6.062. The following facilities can apply for a “permit by rule”

- Printing operations
- Crematories and animal incinerators
- Surface coating
- Livestock markets and livestock operations

The description of these facilities includes certain restrictions and requirements that should be reviewed prior to applying for the “permit by rule.” Please call the Environmental Assistance Office (EAO) for more information.

Some facilities or processes do not have to get a construction permit. They are listed in 10 CSR 10-6.061 and in Table III.

A construction permit may not be required for a modification if an existing facility already has a construction permit and the modification will have a potential to emit (PTE) less than the levels noted in the following table:

## AIR POLLUTION CONTROL

### Insignificance Levels for Construction Permits

Pollutant	Insignificance Level (lbs/hr)	Insignificance Level (lbs/hr) if distance from source to property boundary is greater than 500 feet	Insignificance Level (tons/year)
Particulate Matter – 10 Microns (PM <sub>10</sub> )	1.0	1.0	None
Sulfur Oxides (SO <sub>x</sub> )	2.75	2.75	None
Nitrogen Oxides (NO <sub>x</sub> )	2.75	2.75	None
Volatile Organic Compounds (VOC)	2.75	2.75	4.0*
Carbon Monoxide (CO)	6.88	6.88	None
Hazardous Air Pollutants (HAP)*	0.5	0.91	None

Note 1: Tons per year level is applicable to only “non-HAP” VOCs.

Note 2: HAP emissions must also comply with Risk Assessment Levels.

The potential to emit (PTE) is the amount of pollutants that would be emitted if all the equipment operated at the maximum design rate for 24 hours a day, 365 days a year. The construction permit application calculates the potential for air pollution emissions on a new or modified process or facility.

In the construction permit application, the facility may request an emissions limit such as a limit in the number of operating hours for the equipment. This limit, if accepted by APCP, would become part of the constraints in the construction permit. The limit could change the operating permit status of the facility. Operating permits are discussed in a different section.

After determining a permit is required, an Application for Authority to Construct is filed with APCP, in duplicate, with a filing fee of \$100. In addition, the applicant is charged \$50 per hour for engineering review time. Upon permit issuance, sources must begin the construction/modification project within two years. When an addition or modification is planned for a “grandfathered” facility, or a permit is requested for the modification of a facility with an existing permit, the application forms are completed only for the added or modified equipment or process. The APCP review of the permit applications may take 90 or 180 days to complete depending on the type of construction permit required.

**Temporary installations and pilot plants** with a potential to emit less than 100 tons per year may receive a permit upon written request to APCP before construction begins. Permits are issued only when the attainment or maintenance of ambient air quality standards is not threatened.

**Portable equipment** having the potential to emit any regulated air pollutant greater than *de minimis* levels must obtain a construction permit. The equipment will be permitted for all sites included in the application, but the applicant must indicate the first site. Portable equipment may operate at the first site for no more than 24 months.

## AIR POLLUTION CONTROL

When the owner or operator wants to move the equipment, a Portable Source Relocation Request must be submitted to APCP. For pre-approved sites (site previously reviewed), the agency reviews these requests within 7 days, for new sites these reviews take 21 days. Once a portable plant is relocated, the operations at the new site are limited to 24 months. If an owner desires to stay at a relocation site longer than the 24 months, they must submit a regular construction permit application for approval, which is subject to a 90 day review.

**Operating permits** are issued by APCP in accordance with Title V of the 1990 Clean Air Act Amendments. The federal regulation enabling Title V is found in 40 CFR 70 and thus operating permits are sometimes called Part 70 permits. All sources with the potential to emit any regulated air pollutant above *de minimis* levels, including “grandfathered” sources not required to have a construction permit, must obtain an operating permit. The intent of the program is to insure that sources know and comply with all applicable state and federal regulations. There are three classes of operating permits:

### **Part 70 (Major) Intermediate Basic State (Minor)**

A **Part 70 operating permit** is required of sources with actual or potential emissions equal to or more than 100 tons per year of any criteria pollutant, 10 tons per year of any single hazardous air pollutant (HAP) or 25 tons per year of combined HAPs, or if the EPA Administrator requires a Part 70 permit as a part of a federal rule making. These emissions levels are calculated after considering control devices and are called the major source threshold.

An **intermediate operating permit** may be obtained by facilities whose PTE is above the major source threshold, but have actual emissions below the threshold and do not want to obtain a Part 70 permit. Applicants for these permits propose voluntary conditions to limit their potential emissions to less than the major source level. Some states call the classification a “synthetic minor” permit or a federally enforceable state operating permit (FESOP). Conditions could include absolute emissions limits, recordkeeping of operating hours limits, or production limits. Before applying for intermediate status, businesses should carefully consider whether voluntary conditions to limit emissions would be an undue handicap on operations.

A **basic state operating permit** is required if PTE is between *de minimis* and major levels or the need for a Part 70 permit has been deferred by the EPA administrator. Some businesses such as dry cleaners, fall under the **National Emissions Standards for Hazardous Air Pollutants (NESHAP)** and may be required to obtain a State Basic operating permit even though their emissions of hazardous air pollutant(s) may be below *de minimis*. If a business uses solvents, the owner or representative should contact the Environmental Assistance Office to determine if the business is affected by a NESHAP. All incinerators must be permitted, regardless of size (except non-commercial dead animal incinerators that are exempted by state law). Permitted portable equipment is also exempt from the requirement for an operating permit.

The completed application is submitted with a \$100 fee to the Air Pollution Control Program or if the business is located in one of the local jurisdictions such as Springfield, Kansas City or St. Louis, to that local agency. No review time is charged. Part 70 applications are overseen by the

## AIR POLLUTION CONTROL

EPA regional office and require public notice. A public hearing may be requested for cause by any interested party. A hearing does not have to be held, if in the judgement of APCP, it is not required. Intermediate applications require public notice and interested parties may comment or request a hearing.

The construction permit and operating permit application forms and instructions are complex. The department's Environmental Assistance Office (EAO) offers assistance completing the forms.

## **ASBESTOS REMOVAL NOTIFICATIONS**

APCP regulates asbestos abatement projects under the federal regulations found in 40 CFR 61 **Subpart M, the National Emission Standards for Asbestos**. An asbestos abatement project is an activity undertaken to encapsulate, enclose or remove 160 square feet or 260 linear feet or more of friable asbestos-containing material from buildings and other air contaminant sources, or to demolish buildings and other air contaminant sources containing 160 square feet or 260 linear feet or more of asbestos.

Friable asbestos-containing material is any material that contains more than 1% asbestos, by weight, which is applied to ceilings, walls, structural members, piping, ductwork or any other part of a building or facility and when dry, may be crumbled, pulverized or reduced to powder by hand pressure. Nonfriable asbestos containing material may be rendered friable by certain activities and thus regulated. Please contact the Air Pollution Control Program (APCP) regarding any questions concerning the applicability of the regulation.

Any regulated asbestos project must be performed by a contractor registered with the APCP. Under strict conditions, certain types of businesses may obtain an exemption from portions of the asbestos rule to perform asbestos mitigation work in their own place of business. Please contact the Air Pollution Control Program regarding any questions concerning asbestos.

**TABLE I**  
**DE MINIMIS EMISSION LEVELS**

**Table 1 of 10 CSR 10-6.020(3)(A)**

<b>AIR CONTAMINANT</b>	<b>EMISSION RATE (tons per year)</b>
Carbon monoxide	100.0
Nitrogen dioxide	40.0
Particulate Matter (PM)	25.0
Particulate Matter – 10 micron (PM <sub>10</sub> )	15.0
Sulfur dioxide	40.0
Ozone (to be measured as VOC)	40.0
Lead	0.6
Mercury	0.1
Beryllium	0.0004
Asbestos	0.007
Fluorides	3.0
Sulfur acid mist	7.0
Vinyl chloride	1.0
Hydrogen sulfide	10.0
Total reduced sulfur (including hydrogen sulfide)	10.0
Reduced Sulfur Compounds (including hydrogen sulfide)	10.0
Municipal waste combustor organics -- (measured as total tetra- through octa-chlorinated dibenzoturans and Dibenzofurans)	$3.5 \times 10^{-6}$
Municipal Waste Combustor Metals -- (measured as Particulate Matter)	15.0
Municipal Waste Combustor Acid Gases-- (measured as sulfur dioxide and hydrogen chloride)	40.0
Municipal solid waste landfill emissions (measured as nonmethane organic compounds)	50.0
Hazardous Air Pollutant (each)	10.0
Sum of Hazardous Air Pollutants	25.0

**TABLE II**  
**LIST OF NAMED INSTALLATIONS**

1. Coal cleaning plants (with thermal dryers)
2. Kraft pulp mills
3. Portland cement plants
4. Primary zinc smelters
5. Iron and steel mills
6. Primary aluminum ore reduction plants
7. Primary copper smelters
8. Municipal incinerators capable of charging more than 250 tons of refuse per day
9. Hydrofluoric, sulfuric or nitric acid plants
10. Petroleum refineries
11. Lime plants
12. Phosphate rock processing plants
13. Coke oven batteries
14. Sulfur recovery plants
15. Carbon black plants (furnace process)
16. Primary lead smelters
17. Fuel conversion plants
18. Sintering plants
19. Secondary metal production plants
20. Chemical process plants
21. Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input
22. Petroleum storage and transfer facilities with a capacity exceeding three hundred thousand (300,000) barrels
23. Taconite ore processing facilities
24. Glass fiber processing plants
25. Charcoal production facilities
26. Fossil-fuel-fired steam electric plants of more than 250 million British thermal units per hour heat
27. All other stationary source categories regulated by a standard promulgated under Section 111, Standards of Performance for New Stationary Sources or Section 112, Maximum Achievable Control Technology (MACT) of the Clean Air Act Amendments.

**TABLE III**  
**CONSTRUCTION PERMIT EXEMPTIONS**

(The following is a general list of facilities and processes that may be exempt. Please check 10 CSR 10-6.061 to verify whether a facility or process is exempt from construction permit requirements.)

Exemption	Regulation 10 CSR 10-6.061
1. Some combustion equipment using natural gas or liquefied petroleum gas with a capacity less than ten (10) million British thermal units (Btu) per hour heat input.	(3)(A)1
2. Some combustion equipment with a capacity of less than one (1) million Btu per hour heat input.	(3)(A)1
3. Some ovens with a total production of yeast-leavened bakery products of less than to thousand (10,000) pounds per operating day heated either electrically or exclusively by natural gas firing with a maximum capacity of less than ten (10) million Btu per hour.	(3)(A)1
4. Office and commercial buildings, where emissions result solely from space heating by natural or liquefied petroleum gas of less than twenty (20) million Btu per hour heat input.	(3)(A)2A
5. Comfort air conditioning or comfort ventilating systems not designed or used to remove air contaminants.	(3)(A)2B
6. Equipment used for any mode of transportation.	(3)(A)2C
7. Some livestock markets and livestock operations.	(3)(A)2D
8. Some grain handling, storage and drying facilities.	(3)(A)2E
9. Restaurants and other retail establishments for preparing food for employee and guest consumption.	(3)(A)2F
10. Some wet sand and gravel production facilities that obtain their material from subterranean and subaqueous beds.	(3)(A)2G
11. Equipment solely installed for controlling fugitive dust.	(3)(A)2H
12. Equipment or control equipment that eliminates all emissions to the ambient air.	(3)(A)2I
13. Equipment, including air pollution control equipment, but not including an anaerobic lagoon, that emits odors but no regulated air pollutants.	(3)(A)2J
14. Residential wood heaters, cookstoves, or fireplaces.	(3)(A)2K
15. Laboratory equipment used exclusively for chemical and physical analysis or experimentation, except equipment used for controlling radioactive air contaminants.	(3)(A)2L
16. Recreational fireplaces.	(3)(A)2M
17. Some stacks and vents used to prevent the escape of sewer gases through plumbing traps for systems handling domestic sewage only	(3)(A)2N
18. Some noncommercial incineration of dead animals.	(3)(A)2O
19. Some office equipment and products that are not part of manufacturing or production processes at the installation.	(3)(A)2P
20. Tobacco smoking rooms and areas.	(3)(A)2P

# AIR POLLUTION CONTROL

Exemption	Regulation
	10 CSR 10-6.061
21. Hand-held applicator equipment for hot melt adhesives with no volatile organic compound (VOC) in the adhesive formula.	(3)(A)2P
22. Paper trimmers and binders.	(3)(A)2P
23. Blacksmith forges, drop hammers and hydraulic presses.	(3)(A)2P
24. Hydraulic and hydrostatic testing equipment.	(3)(A)2P
25. Some environmental chambers, shock chambers, humidity chambers and solar simulators.	(3)(A)2P
26. Some internal combustion engines.	(3)(A)2Q
27. Some quarries, mineral processing and biomass facilities.	(3)(A)2R
28. Some natural gas, liquefied petroleum gas or electric kilns used for firing ceramics.	(3)(A)2S
29. Some electric ovens or kilns used for curing or heat-treating.	(3)(A)2S
30. Any equipment used in agricultural operations to grow crops.	(3)(A)2T
31. Some equipment used to slaughter animals.	(3)(A)2T
32. Some commercial smokehouses or barbecue units.	(3)(A)2T
33. Equipment used exclusively to grind, blend, package or store tea, cocoa, spices or coffee.	(3)(A)2T
34. Some equipment used to dry, mill, blend, grind or package dry food products such as seeds, grains, corn, meal, flour, sugar and starch.	(3)(A)2T
35. Some equipment used in food production operations to convey, transfer, clean or separate dry food products or waste.	(3)(A)2T
36. Some storage equipment or facilities containing dry food products.	(3)(A)2T
37. Some coffee, cocoa and nut roasters, and stoners or coolers operated with the roasters.	(3)(A)2T
38. Some containers and loading equipment used for alcoholic beverages.	(3)(A)2T
39. Some brewing operations.	(3)(A)2T
40. Some fruit sulfuring operations.	(3)(A)2T
41. Some batch solvent recovery equipment.	(3)(A)2U
42. Some surface coating and printing operations.	(3)(A)2V
43. Some metal working and handling equipment.	(3)(A)2W
44. Some liquid storage and loading equipment.	(3)(A)2X
45. Some chemical processing equipment.	(3)(A)2Y
46. Some body repair and refinishing of vehicles.	(3)(A)2Z
47. Some sawmills	(3)(A)2AA
48. Some internal combustion engines and gas turbine driven compressors, electric generator sets and water pumps.	(3)(A)2BB
49. Commercial dry cleaners	(3)(A)2CC
50. Some new processes that meet distance and emission requirements.	(3)(A)3
51. Some routine maintenance, parts replacement and relocation of emission units.	(3)(B)1
52. Some changes in a process or process equipment.	(3)(B)2
53. Some like-kind replacement of emission units.	(3)(B)3
54. Plant maintenance and upkeep activities.	(3)(B)5A
55. Batteries and battery charging stations.	(3)(B)5B
56. Fire suppression equipment and emergency road flares.	(3)(B)5C

# AIR POLLUTION CONTROL

Exemption	Regulation
	10 CSR 10-6.061
57. Laundry activities, except drycleaning and steam boilers.	(3)(B)5D
58. Steam emissions from leaks, safety relief valves, steam cleaning operations and steam sterilizers.	(3)(B)5E
59. Some equipment and containers used for surface preparation, cleaning, or stripping by use of solvents or solutions.	(3)(B)6A
60. Some abrasive blasting sources.	(3)(B)6C
61. Blast cleaning equipment using a suspension of abrasive in water.	(3)(B)6D
62. Some portable blast cleaning equipment.	(3)(B)6E
63. Any solvent cleaning or surface preparation source that employs only non-refillable handheld aerosol cans.	(3)(B)6F

# ENVIRONMENTAL SERVICES

## SPILL REPORTING

The Environmental Emergency Response Section maintains a 24-hour statewide telephone number (573) 634-2436 to be used to notify the state of Missouri whenever an environmental emergency occurs.

Several different laws require the reporting of release involving hazardous substances and petroleum products. Hazardous substances are those which are flammable, toxic, corrosive or reactive. Petroleum includes all fuels, gases, including crude oil, natural gas and synthetic gas usable for fuel. Specific chemicals and substances that are considered hazardous are listed in the following laws:

- Federal Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA)
- Federal Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) and
- Missouri Revised Statutes 260.500 – 260.550.

Petroleum releases that exceed 50 gallons of a liquid or 300 cubic feet of gas must be reported to the state. Any petroleum release that enters or threatens waters of the state must be reported. Petroleum releases from underground storage tanks exceeding 25 gallons must be reported as well.

Specific threshold amounts have been established for reporting CERCLA and EPCRA hazardous substance releases. Any release that exceeds the reportable quantity must be reported to the following officials:

- Local authorities (contact your Local Emergency Planning Committee to determine your appropriate local notification procedures)
- State of Missouri (notification is satisfied by calling the department's 24-hour line, (573) 634-2436)
- National Response Center at: 800-424-8802.

Notification is the responsibility of the person having control over the hazardous substance. Having the fire department or other response agency make the call to the department does not satisfy the notification requirements. Releases must be reported to the state at the earliest practical moment.

## RISK MANAGEMENT PROGRAM

Under **112(r) of the Federal Clean Air Act Amendments of 1990: Prevention of Accidental Releases**, those who handle, manufacture, use or store any of the 140 specified toxic and flammable substances above the threshold quantities in a process must develop and implement a risk management program. Covered facilities are required to submit a plan describing their efforts to prevent and minimize the consequences of accidental chemical releases. The accidental release regulation, found in the Code of Federal Regulations 40 CFR 68, requires that

covered facilities identify, assess, document and minimize their chemical hazards by developing a risk management program and submitting a risk management plan (RMP) to the EPA.

“Risk management program” refers to all of the requirements of Part 68, which must be implemented on an on-going basis. “Risk management plan” refers to the document summarizing the risk management program that must be submitted to EPA.

### **Purpose**

The goal of the risk management program is to prevent accidental releases of substances that can cause serious harm to the public and the environment. The risk management plan will help the local emergency planning committee (LEPC) prepare for and respond to chemical accidents. It will also be useful to the public in understanding the chemical hazards in their community.

### **Requirements**

In general, 40 CFR 68 requires that:

- Covered facilities must develop and implement a risk management program and maintain documentation of the program at the site. The risk management program will include an analysis of the potential off-site consequences of an accidental release, a five-year accident history, a release prevention program and an emergency response program.
- Covered facilities must develop and submit an RMP to EPA no later than the date on which the facility first has more than a threshold quantity. The RMP provides a summary of the risk management program. The RMP will be available for federal, state and local government agencies and the public.
- Covered facilities also must continue to implement the risk management program and update their RMPs every five years or when covered processes change, when new covered processes are added, or within six months of when the off-site consequence analysis distances change by a factor of 2. For example, if the distance doubles or is cut in half.

### **Who is Covered?**

The type and quantity of chemicals used will determine if a facility is affected. Some of the chemicals covered by this regulation include ammonia and chlorine. A business will likely be required to comply with the risk management program if it uses any of the 140 regulated substances in quantities that exceed certain thresholds. Even small businesses may be using common hazardous chemicals in quantities great enough to cause harm to the surrounding community if there were an accident. These regulations also apply to government facilities.

The following are two common chemicals and threshold quantities:

- Ammonia (anhydrous) -- covered if exceeding 10,000 lbs.
- Chlorine -- covered if exceeding 2500 lbs.

Facilities that are subject to the risk management program will then determine which "program level" they fit. EPA established three levels of requirements based on the risk of off-site impacts

## ENVIRONMENTAL SERVICES

in case of a chemical accident. Program Level 1 has the fewest requirements, while Program Levels 2 and 3 require more work because their processes present a greater risk to the surrounding communities. For guidance in determining whether chemicals are covered substances above the threshold quantities and which level applies to a facility, contact Environmental Services at 1-800-361-4827.

The department provides compliance assistance to the regulated community and technical assistance to the local emergency response agencies and the public. EPA will provide for enforcement activities in Missouri. The regulation requires that all plans be submitted electronically to EPA via computer diskette. Small businesses that are unable to comply with required electronic submission may be eligible for an electronic waiver to submit their RMP on paper.

**For more information:** Contact the Environmental Services Program at (573) 526-3315 or toll-free at (800) 361-4827. You can also contact EPA's hotline at (800) 424-9346 (during regular business hours) or the Chemical Emergency Preparedness and Prevention Office website <http://www.epa.gov/ceppo>.

# **DAM AND RESERVOIR SAFETY**

The Water Resources Program (WRP) is responsible for ensuring all existing and new non-federally owned or regulated dams, at least 35 feet in height meet minimum safety standards established by Sections 236.400 – 236.500 of the Revised Statutes of Missouri. A “dam” is defined as any artificial or man-made barrier, including appurtenant works, which does or may impound water and is 35 feet or more in height. The height is measured from either the natural bed of the stream or watercourse at the downstream toe of the barrier or dam or the lowest point on the downstream toe of the dam (whichever is lower) up to the dam crest elevation exclusive of the spillway(s).

## **PERMITS**

A registration permit is a permit issued for a period not to exceed five years to the owners of a dam or reservoir in existence on Aug. 13, 1981, or which became subject to the provisions of the law subsequent to that date. Registration permits are only issued for dams that are in a properly maintained condition or which have made and complied with recommendations for corrections of observed defects and have been examined and approved in accordance with the law.

A construction permit is a permit that gives the owner the right to construct, alter, enlarge, reduce, repair or remove a dam or reservoir or appurtenances thereto, with such conditions as are necessary to adequately protect the public safety, life, property, the dam or reservoir.

A safety permit is a permit issued for a period not to exceed five years to the owner of a dam or reservoir built after Aug. 13, 1981. These dams were built under an approved construction permit indicating that the dam meets the requirements of sections 236-400 to 236-500 and the guidelines, standards, rules and regulations issued pursuant to sections 236-400 to 236-500. The permit contains conditions as to operations, maintenance and repair as are necessary to adequately protect public safety, life and the dam or reservoir.

# HAZARDOUS WASTE MANAGEMENT

**The Resource Conservation and Recovery Act (RCRA)**, which amended **the Solid Waste Disposal Act**, was the first substantial effort by Congress to establish a regulatory structure for the management of solid and hazardous wastes. Subtitle C of RCRA addresses “cradle-to-grave” requirements for hazardous waste from the point of generation to disposal. Subtitle D of RCRA contains less restrictive requirements for nonhazardous solid waste. The **Hazardous and Solid Waste Amendments (HSWA)** of 1984 established additional waste management requirements and added Subtitle I, which imposes management requirements for underground storage tanks (USTs) that contain petroleum or hazardous substances.

Regulations implementing Subtitle C of RCRA for hazardous waste management are found in 40 CFR 260-279. Although RCRA is a federal statute, many states implement the RCRA program. In addition, many states have state-level hazardous waste requirements that go beyond the federal RCRA requirements. Sites that have been contaminated with hazardous waste may also be subject to requirements under the **Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)**, commonly known as Superfund.

The Hazardous Waste Program (HWP) is responsible for monitoring and controlling the generation, handling and disposal of hazardous wastes in Missouri. They administer programs created by the federal laws **RCRA Subtitle C**, the **CERCLA**, federal regulations 40 CFR 260-272, the Universal Waste Rule found in 40 CFR 273 and the used oil regulations found in 40 CFR 279.

The primary state enabling statutes are the Hazardous Waste Management Law, Chapter 260 (RSMo.) and the Underground Storage Tank Law, Chapter 319 (RSMo). The portion of the Code of State Regulations (CSR) that governs and outlines the program’s responsibilities is recorded in 10 CSR 25 for hazardous waste and 10 CSR 20 for underground storage tanks.

For a hazardous material to be regulated as a hazardous waste, it must first fall under the regulatory definition of solid waste.

## DEFINITION

A solid waste is defined as a solid, liquid or gaseous material that is no longer used and will be discarded. A waste is hazardous if it is on a list of specified wastes determined to be hazardous or exhibits one or more of the following hazardous characteristics:

1. Ignitability
2. Corrosivity
3. Reactivity
4. Toxicity

Hazardous wastes are classified as either acute or non-acute, which is the degree to which it is hazardous. Listed hazardous wastes can be found in the Code of Federal Regulations (CFR) Title 40, Part 261 and 10 CSR 25-4.261 (2)(D). Examples of chemicals or materials that may exhibit hazardous characteristics are petroleum products, dyes, paints, printing inks, thinners,

solvents, cleaning fluids, pesticides or related chemicals, acids, caustics, materials that ignite easily, react when exposed to air or water, or are potentially explosive.

### PERMITS

Hazardous waste permits are required for hazardous waste treatment, storage or disposal (TSD), and polychlorinated biphenyl (PCB) facilities. These facilities are especially designed to handle, treat or otherwise dispose of hazardous wastes or PCBs.

### RESOURCE RECOVERY CERTIFICATION

Notification to the department or certification by the department is required for hazardous waste resource recovery activities. This activity recycles or recovers valuable materials from hazardous wastes. For example, distillation of solvents would require either notification to the department or certification by the department. Notification to the department would be required if the facility recovers less than 2,200 pounds of hazardous waste in a month. A certification would be required if the facility recovers 2,200 pounds or more of hazardous waste in a month or if the recovery is done by a second company at the first company's facility. Hazardous waste sent to another facility for recycling or recovery will probably not fall under this certification exemption.

### HAZARDOUS WASTE TRANSPORTER

Transporters of hazardous waste must obtain a Hazardous Waste Transporter License. This license can be obtained through the Missouri Department of Transportation, Motor Carrier Services at (573) 751-3358

### HAZARDOUS WASTE GENERATOR REGISTRATION

Based on the amount of hazardous waste produced, generators are required to register with the HWP. Generators fall into three categories, depending on the amount of hazardous waste generated or stored:

- Large Quantity Generator (LQG)
- Small Quantity Generator (SQG)
- Conditionally Exempt Small Quantity Generator (CESQG)

Categories are defined by the **amount generated in one month or accumulated at any one time**. The general guidelines are as follows:

#### Large Quantity Generator

- generates more than 1 kg (2.2 lbs.) of acutely hazardous waste
- OR**
- generates 1,000 kg (2,200 lbs.) or more of non-acute hazardous waste

#### Small Quantity Generator

- generates no more than 1 kg (2.2 lbs.) of acutely hazardous waste

**AND**

- more than 100 kg (220 lbs.) but less than 1,000 kg (2,200 lbs.) of non-acute hazardous waste

### **Conditionally Exempt Small Quantity Generator**

- generates 100 kg (220 lbs.) or less of non-acute hazardous waste

**AND**

- generates no more than 1 kg (2.2 lbs.) of acutely hazardous waste

Some businesses likely to generate hazardous waste are automobile repair shops, electroplaters, metal fabrication facilities, printers, dry cleaners or laundry facilities, photographic processors, chemical or paint manufacturers, textile manufacturers, wood furniture manufacturers and refinishers, or paper product manufacturers. Contact the Environmental Assistance Office for additional information on hazardous waste generation.

### **UNIVERSAL WASTE**

Certain widely generated hazardous wastes that can be safely transported and recycled easily may be considered universal wastes. Handlers of universal wastes have less strict rules to follow. The portion of the Code of State Regulations that defines universal waste regulations is recorded in 10 CSR 25-16.273.

#### **Definition**

Universal waste must first be classified as hazardous waste. If the waste does not contain enough of the hazardous component to classify it as hazardous waste, it is not considered universal waste. The following hazardous waste can be handled as universal waste:

- Batteries
- Pesticides
- Mercury thermostats, mercury switches, mercury containing thermometers and mercury containing lamps

#### **Universal Waste Handlers**

Most businesses generate universal waste. The regulations that must be followed by universal waste handlers are determined by the amount of universal waste handled. These regulations are located in 40 CFR 273 and 10 CSR 25-16.273. Handlers fall into two categories:

- Large Quantity Handler (LQH) - Accumulates a total of 5,000 kilograms (approximately 11,000 lbs.) or more of universal waste.
- Small Quantity Handler (SQH) - Accumulates less than a total of 5,000 kilograms (approximately 11,000 lbs.) of universal waste.

The general guidelines are as follows:

- must not dispose of a universal waste into the environment.
- must not dilute or treat a universal waste or break or crush mercury containing lamps without a Missouri Resource Recovery Certification or permit.
- must follow the waste management requirements stated in the rule for the particular waste(s) being managed.

## HAZARDOUS WASTE MANAGEMENT

- small quantity handlers generating only universal wastes that they manage under this rule do not need to register or obtain an EPA identification number; large quantity handlers must register and obtain an EPA identification number if a number has not previously been obtained.
- must prevent releases to the environment.
- must label waste as a “universal waste” as described in the rule.
- may accumulate universal wastes on-site for up to one year.
- may accumulate universal wastes for more than one year for the sole purpose of facilitating proper recovery or disposal.
- may accept universal wastes from off-site and keep them for up to one year (except for universal waste pesticides).
- must train employees on proper handling and emergency procedures.
- must respond to spills and manage the spill residue as hazardous waste.
- may self-transport the universal waste to an authorized destination facility or Missouri Certified Resource Recovery Facility (or for pesticides, to a Missouri Pesticide Collection Program). If self-transporting, the handler is required to meet universal waste transporter requirements in the rule.
- small quantity handlers need not keep records of universal wastes received or shipped; large quantity handlers have recordkeeping requirements.
- must comply with export requirements for foreign shipments if applicable.

For additional information, contact the Environmental Assistance Office.

### **USED OIL**

Used oil is defined as petroleum-derived and synthetic oils that have been spilled into the environment or used for lubrication or cutting oil, heat transfer, hydraulic power or insulation in dielectric transformers. Oils used as solvents and used ethylene glycol are not defined as used oil. The regulations pertaining to used oil can generally be found in 40 CFR 279 and 10 CSR 25-11.279.

A used oil generator is any business that produces used oil through commercial or industrial operations, or that collects it from these operations or from private households and exempted farmers. Household members who change their own oil (do-it-yourselfers) are not covered by the used oil regulation. Farmers who generate an average of 25 gallons or less of used oil per month from farm vehicles or machinery in a calendar year are also exempt.

Used oil generators must comply with the following requirements:

- Keep storage tanks and containers in good condition and labeled “used oil.”
- Keep tanks and containers that are exposed to rainfall closed except when adding or removing used oil.
- Clean up any used-oil spills or leaks to the environment.
- Use a used oil transporter with a Missouri hazardous waste transporter license and an EPA generator identification number.

### UNDERGROUND STORAGE TANKS

Underground Storage Tanks (USTs) are regulated under Subtitle I of the 1984 Amendment to RCRA. EPA regulations for this program are found in 40 CFR 280. An underground storage tank (UST), is defined as any tank and piping system that is 10 percent or more covered with soil and contains petroleum or a hazardous product. These hazardous products are listed in the **Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)**.

USTs must be registered with the Missouri Department of Natural Resources, Hazardous Waste Program, tanks section. Systems out of service before 1974 are exempt from the registration requirement. Any tank smaller than 110 gallons, farm or residential tanks smaller than 1,100 gallons and any heating oil tanks for on-site use are excluded from the definition of UST.

The owner of the tank is responsible for registration. Both the owner and operator are responsible for all other aspects of the UST rules. The department requires a 30 day advance notice of installation. New USTs must be registered within 30 days of bringing into use. The owners/operators are responsible for keeping records of corrosion protection, repairs, monthly leak detection, site assessments and financial responsibility.

Because of the potential for a spill or release from their tanks, owners must demonstrate financial responsibility coverage. They must have the financial capability to provide soil and ground water cleanup, third-party property cleanup and third-party bodily injury. Participation in the Missouri Petroleum Storage Tank Insurance Fund (PSTIF) is one way of meeting this requirement.

The owner/operator must report all releases, including suspected releases, spills, overfills and confirmed releases within 24 hours.

The release must be reported to the department's Environmental Services Program. Petroleum spills of less than 25 gallons do not have to be reported if cleaned up immediately.

New UST systems (new tanks and piping) must meet the technical requirements for corrosion protection, spill and overfill prevention, leak detection and certification of proper installation. All existing UST systems should have been upgraded by Dec. Upgrades consist of lining and/or cathodically protecting the tank, adding spill and overfill preventers to the tank and cathodically protecting the piping.

### ABOVEGROUND STORAGE

Non-transportation facilities with aboveground storage tanks (AST) containing petroleum may be subject to the federal **Oil Pollution Act** of 1990. This is covered in the federal regulation 40 CFR 112. A non-transportation related facility is defined as all fixed facilities including support equipment except interstate pipelines, railroad tank cars in route, transport trucks in route and bulk oil terminals.

According to the federal definition, an aboveground storage tank (AST) includes any tank and connecting pipes that are 90 percent or more above the surface of the ground and contains a petroleum product designated for sale. Petroleum is defined as gasoline, kerosene, diesel, lubricants and fuel oil. Petroleum tanks in a facility whose total storage capacity is greater than 1,320 gallons are subject to 40 CFR 112.

Part 112 requires the preparation and implementation of a Spill Prevention Control and Countermeasure (SPCC) Plan. The plan must be certified by a registered professional engineer (P.E.) to verify good engineering practices are followed when preparing the plan. Tanks must be located in containment structures capable of holding 110 percent of the volume of the single largest tank in the structure.

A complete copy of the SPCC plan must be maintained at the facility. Facilities existing since Jan. 11, 1975, must have a SPCC plan. New facilities have six months to prepare a SPCC plan. The plan must be implemented within 12 months from the date the facility begins operating. Contact the Environmental Assistance Office or the Hazardous Waste Program, tanks section for additional information regarding underground storage tanks. Contact EPA, Region 7, for information concerning SPCC plans or for information on requirements for ASTS. Additional SPCC information can be found at <http://www.epa.gov/oilspill/>.

# LAND RECLAMATION

The Land Reclamation Program (LRP) is responsible for regulating and controlling surface mining in Missouri to minimize the injurious effects of mining on people and resources of the state. This activity administers the programs created by four state laws and one federal law. The state laws are the **Strip Mine Law** (444.500 – 444.755 RSMo), the **Land Reclamation Act** (444.760 – 444.790 RSMo), the **Surface Coal Mining Act** (444.800 – 444.970 RSMo) and the **Metallic Minerals Waste Management Act** (444.350 – 444.380 RSMo). The federal law is the **Surface Mining Control and Reclamation Act** of 1977. The portion of the Code of State Regulations (CSR) that governs and outlines the program's responsibilities is recorded in 10 CSR 40. The LRP also regulates the disposal of metallic mineral wastes, which is recorded in 10 CSR 45. Currently, due to budget restraints, the U.S. Department of Interior, Office of Surface Mining, is implementing part of the coal regulatory program on behalf of Missouri.

## PERMITS

An **industrial surface mining permit** is required for the surface mining and surface disturbance associated with the underground mining of gravel, limestone, granite, traprock, tar sands, clay, barite, sandstone, oil shale, sand, shale and all others as defined in Chapter 444.765 (RSMo). An application fee and reclamation bond must be posted. These operations typically require other permits from the Missouri Department of Natural Resources, including the Air Pollution Control Program and the Water Pollution Control Program. Should the mining occur in a stream, a permit may also be required by the nearest U.S. Army Corps of Engineers district office. Mine Safety and Health Administration permits are also usually required.

A **coal exploration permit** is required for exploratory drilling and test-pit excavation. Separate permit requirements apply for drilling operations and exploration work that remove more than 250 tons of coal, cause substantial disturbance to the natural land surface, or take place on land designated unsuitable for surface mining. An application fee and a reclamation bond of \$5,000 must be posted for drilling operations. Full-cost bonding is needed for other exploration activities. Air pollution, water pollution or Mine Safety and Health Administration permits may be required. Currently the Office of Surface Mining implements this permitting process.

A **surface coal mine and reclamation permit** is required for any surface coal mine operation, as well as the surface-disturbance associated with underground coal mines. An application fee, reclamation bond and an annual permit fee are required. Air pollution, water pollution and Mine Safety and Health Administration permits are required. In fiscal year 2004, the Missouri Legislature reduced coal funding and staffing substantially. The Office of Surface Mining is now implementing the regulatory portion of the coal program. Missouri continues to implement reclamation at bond forfeiture and abandoned mine land sites. Currently the Office of Surface Mining implements this permitting process.

A **metallic mineral waste management permit** is required for the disposal of waste from metallic minerals mining, beneficiation and processing. A permit fee and financial assurance are required. Coordination with the Air Pollution Control Program, Water Pollution Control Program, Geological Survey and Resource Assessment Division's Dam Safety Program, Solid Waste Management Program and Hazardous Waste Management Program regulations is

## LAND RECLAMATION

recommended. For additional information, contact the Environmental Assistance Office (EAO) or the Land Reclamation Program (LRP).

# PESTICIDES

The federal government first regulated pesticides when Congress passed the **Insecticide Act** of 1910. Congress broadened the federal government's control of pesticides by passing the original **Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)** of 1947 under control of the U.S. Department of Agriculture. In 1970, Congress transferred the administration of FIFRA to the newly created EPA. This initiated a shift in the focus of federal policy from the control of pesticides for reasonably safe use in agricultural production to the control of pesticides for reduction of unreasonable risks to humans and the environment.

This policy focus was expanded by the passage of the **Federal Environmental Pesticide Control Act (FEPCA)** of 1972, which amended FIFRA by specifying methods and standards of control in detail. Under FIFRA, no one may sell, distribute, or use a pesticide unless it is registered by EPA. Registration includes approval by EPA of the pesticide's label, which must give detailed instructions of its safe use. In recent times, there has been a shift toward greater emphasis on minimizing risks associated with toxicity and environmental degradation and away from pesticide potency issues.

In Missouri, the pesticide program is administered by the Missouri Department of Agriculture's Plant Industries Division, Bureau of Pesticide Control.. The bureau administers the Missouri Pesticide Use Act (281.005 - 281.180 RSMo.) and the Missouri Pesticide Registration Act (281.210 - 281.310 RSMo.). The portion of the Code of State Regulations (CSR) that governs and outlines the bureau's responsibilities is recorded in Title 2 CSR 70-25.

The Use Act establishes requirements for certified commercial applicator licenses, certified noncommercial applicator licenses, certified public operator licenses, certified private applicator licenses, pesticide technician licenses and pesticide dealer licenses. The Missouri Department of Agriculture (MDA) requires an individual planning to apply any pesticides, whether general use or restricted use, to obtain certification prior to applying the pesticides. Licenses in categories other than commercial are only needed for application of restricted use pesticides. The Use Act also provides the guidelines for approving pesticide applicator training programs. The University of Missouri conducts these training programs annually. Other programs may also be available. The Use Act also provides the authority for enforcement and inspections under the pesticide program by MDA. The Department of Agriculture web site: <http://www.mda.mo.gov/Pest/d7c.htm> has additional information.

## CERTIFIED COMMERCIAL/NONCOMMERCIAL APPLICATOR AND CERTIFIED PUBLIC OPERATOR LICENSES

**Certified commercial applicators** are defined by the Missouri Pesticide Use Act as: Any individual, whether or not he is a private applicator, who is certified by the director as authorized to use, supervise the use of, or determine the need for the use of, any pesticide, which is classified for restricted use or for general use, while engaged in the business of using pesticides on the lands of another as a direct service to the public in exchange for a fee or compensation.

**Certified noncommercial applicators** are defined by the Missouri Pesticide Use Act as: Any individual, whether or not he is a private applicator with respect to some uses, who is certified by

the director as authorized to use, or to supervise the use of, any pesticide which is classified for restricted use only on lands owned or rented by the applicator or their employer.

**Certified public operators** are defined by the Missouri Pesticide Use Act as: Any individual who is certified by the director as authorized to use, or to supervise the use of, any pesticide which is classified for restricted use in the performance of their duties as an official or employee of any agency of the state of Missouri or any political subdivision thereof, or any other governmental agency.

To become certified as one of the above applicators or operators, the applicant is required to pass the state pesticide certification examinations. The applicant is required to pass the General Standards of Competence (CORE) examination and at least one of the category examinations. The applicant chooses the category exam(s) based on expertise.

Applicants must submit a completed Certified Applicator and Pesticide Dealer Application to the Bureau of Pesticide Control to make a reservation to take the certification examinations. Study manuals may be purchased from the University of Missouri Extension publications office by mailing in a completed manual order form or by calling (800) 292-0969. After passing the required exams and depending on the type of license for which the applicant is applying, there are additional requirements the applicant will have to meet.

License expiration and renewal:

- **Certified commercial applicator** licenses expire annually. The license may be renewed by submitting the \$50 license fee and the signed renewal card prior to expiration.
- **Certified noncommercial applicator** licenses expire annually. The license may be renewed by submitting the \$25 license fee and the signed renewal card prior to expiration.
- **Certified public operator** licenses expire every three (3) years and may be renewed by submitting the signed renewal card (no license fee is charged).
- All certified applicators and operators are required by state law to renew their certification every three (3) years. This may be accomplished by attending an approved recertification program or by re-examination.

## **CERTIFIED PRIVATE APPLICATOR LICENSE**

**Certified private applicators** are defined by the Missouri Pesticide Use Act as: Any individual who is certified by the director as authorized to use, or to supervise the use of, any pesticide that is classified as restricted use for purposes of producing any agricultural commodity on property owned or rented by the applicator or their employer or on the property of another person, if used without compensation other than trading of personal services between producers of agricultural commodities, on the property of another person.

To obtain a certified private applicator license, the applicant must complete the certified private

applicator training program provided by the University of Missouri Cooperative Extension Service. Training programs are offered throughout the year in local University County Extension Offices. For training dates and times, contact the local University County Extension Office.

Once the training has been completed, the applicant will complete a private applicator certification training verification form. The form will be signed by the instructor and mailed to MDA office (no fee is charge). Upon receipt of the verification form, a certified private applicator license will be issued to the applicant.

Certified private applicator licenses expire five years from the issue date. To renew the license and certification, the certified private applicator must complete the recertification training provided at the local University County Extension Office.

### **PESTICIDE TECHNICIAN LICENSE**

Individuals who use or determine the need for the use of pesticides, under the direct supervision of a certified commercial applicator, in ornamental and turf pest control, general structural pest control or termite pest control must be licensed as a pesticide technician. There are additional requirements for non-Missouri residents.

### **PESTICIDE DEALER LICENSE**

The Missouri Pesticide Use Act defines pesticide dealer as any individual who is engaged in the business of distributing, selling, offering for sale, or holding for sale at retail, or direct wholesale to the end user, any pesticide classified for restricted use. To obtain a pesticide dealer license, the applicant must:

- Submit a completed Certified Applicator and Pesticide Dealer Application
- Pass the Pesticide Dealer Examination
- Pay a \$25.00 license fee

Pesticide dealers are not certified as applicators. Pesticide dealers are required by state law to keep and maintain records of sales of restricted use pesticides. The information that must be recorded can be found in Title 2 CSR 70-25.180 of the regulations for the Missouri Pesticide Use Act.

### **PESTICIDE APPLICATOR TRAINING PROGRAMS**

The Missouri Pesticide Use Act authorizes MDA to establish minimum criteria for recertifying Missouri Certified Commercial and Noncommercial Pesticide Applicators and Public Operators. Each recertification training course must be approved in advance by MDA's Bureau of Pesticide Control. No course will be given post approval. Individuals attending courses prior to approval will not be recertified.

The bureau cannot approve a course for a period of time when staff are not available to monitor the program. Please submit programs as early as possible. Programs will be reviewed in the order received. For a course to be considered for recertification credit in Missouri, the program must comply with the following:

- The course must be open to the public without discrimination.
- A final, written course agenda must be received by MDA's Bureau of Pesticide Control at least 45 days (90 preferred) in advance of the proposed program.

## **RECERTIFICATION/RECIPROCITY**

The University of Missouri Cooperative Extension Service provides recertification training annually during January. Other groups, businesses and associations also sponsor recertification training programs. All recertification training programs must be approved by the Missouri Department of Agriculture, Bureau of Pesticide Control before recertification credit will be awarded to those who attend. Guidelines for pesticide recertification training programs may be obtained by contacting the Bureau of Pesticide Control.

The Missouri Department of Agriculture has entered formal reciprocal agreements with specific states. Reciprocity allows an applicant to apply for a Missouri license based on their certification in another state without having to take and pass the Missouri certification examinations. To apply for a license in Missouri through reciprocity or for additional information regarding pesticide use in Missouri contact the Missouri Department of Agriculture, Bureau of Pesticide Control.

## **ENFORCEMENT & INSPECTIONS**

The Missouri Pesticide Use Act gives MDA the authority to inspect the application of pesticides and dealers and enforce the act. MDA field personnel conduct many types of investigations and inspections. These investigations and inspections include, but are not limited to:

- Pesticide Use and Follow-up
- Applicator Establishment
- Marketplace
- Records of Use and Sales
- Direct Supervision of Technicians
- Producer Establishment
- Experimental Use

When an individual suspects that damage has occurred from a pesticide application he or she may contact the Missouri Department of Agriculture in Jefferson City to file a complaint about the possible misuse of a pesticide by any applicator. An investigator for the area in which the application was made is notified to make an investigation of the incident as soon as possible. Questions concerning the use of pesticides or complaints concerning a possibly damaging pesticide application should be addressed to MDA.

## **PESTICIDE REGISTRATION**

The Registration Act provides the authority for pesticide registration. Every pesticide that is manufactured, distributed, sold or offered for sale, used or offered for use within the state must be registered with MDA. These registrations are renewable annually.

For further information concerning pesticide use, applicator licensing, registration or training, contact:

The Bureau of Pesticide Control  
Plant Industries Division  
Missouri Department of Agriculture  
P.O. Box 630  
Jefferson City, MO 65102  
(573) 751-5504  
(573) 751-0005                      fax

For further information about the Pesticide Applicator Training Program at the University of Missouri contact:

Pesticide Program Coordinator  
212A Waters Hall  
University of Missouri - Columbia  
Columbia, MO 65211  
(573) 884-6361

Additional information is also available toll-free from the National Pesticide Telecommunications Network at (800) 858-7378.

## **DISPOSAL**

The Missouri Department of Natural Resources regulates the disposal of pesticides including pesticide containers. In Missouri, pesticides can be regulated under the Universal Waste Rule (UWR), found in 10 CSR 25-16.273. This rule incorporates the federal law found in 40 CFR 273. UWR gives generators of certain types of hazardous waste (including pesticides) a less stringent management option. Use of the Universal Waste Rule to dispose of pesticides requires prior notification to the Hazardous Waste Program and following a standard operating procedure available from the Hazardous Waste Program. Please refer to the Universal Waste topic in the Hazardous Waste section of this document.

When not using the Universal Waste Rule, follow hazardous waste disposal regulations for any pesticide that is a listed hazardous waste or has hazardous characteristics. A list of Missouri Hazardous Waste Disposal Facilities is available from the Missouri Department of Natural Resources Web site or by calling the Environmental Assistance Office.

Triple-rinsed or power-rinsed plastic pesticide containers and thoroughly emptied dry pesticide boxes and bags may be disposed of as solid waste in sanitary landfills.

# **POLLUTION PREVENTION**

## **WHAT IS POLLUTION PREVENTION?**

Pollution prevention is simply not making the waste (or pollutant) in the first place. It means doing what can be done to reduce the amount and toxicity of the pollution generated or the amount of energy consumed. Preventing pollution may be something as simple as buying products with little or no packaging or something as complex as redesigning an operation to increase efficiency and reduce waste. Simple things like choosing nonhazardous solvents and cleaners can protect the environment and reduce the number of environmental regulations a manufacturer faces. Pollution prevention means thinking about the environmental impact of actions and trying to limit that impact.

Pollution prevention (P2) was established as a national policy through the Pollution Prevention Act of 1990. Congress defined pollution prevention as:

Any practice which reduces the amount of a hazardous substance, pollutant or contaminant entering any waste stream or otherwise released into the environment (including fugitive emissions) prior to recycling, treatment or disposal.

Congress established a hierarchy of preferred pollution prevention methods. Source reduction is the preferred method with recycling, treatment and disposal listed in descending order of preference. Disposal should always be the last resort. To achieve maximum benefits, a facility's pollution prevention program should have two distinct parts. The first is the general, overall pollution prevention plan, which encompasses the entire facility and the plan's initial requirements. The second portion deals with the details of doing pollution prevention opportunity assessments on specific activities or processes.

## **WHY PREVENT POLLUTION?**

Once generated, waste or pollution must be safely and legally managed. Whether it is household trash or waste from a business, managing wastes costs money. Usually the discarded items were purchased in the first place. A good example is paper towels. They are bought, used once and discarded, which also costs. Reducing the amount of waste generated saves money. Reducing costs is a major reason to prevent pollution. Here are a few others:

- Improved work environment and worker safety
- Reduced liability
- Increased efficiency
- Fewer regulatory requirements
- Better environmental protection
- Enhanced marketing and public relations opportunities

P2 makes sense. P2 techniques not only resolve or reduce environmental quality issues or problems, but also save money. By reducing expenses, pollution prevention improves both the competitiveness and efficiency of business and industry. For more information, contact the Environmental Assistance Office at (800) 361-4827.

# PUBLIC DRINKING WATER

The Water Protection Program's public drinking water branch is responsible for the monitoring and quality of public drinking water in Missouri. It administers programs created by the federal **Safe Drinking Water Act** and the **Safe Drinking Water Act Amendments**. The primary state enabling legislation is the Public Drinking Water Law, Chapter 640 (RSMo). The portion of the Code of State Regulations (CSR) defining the organization and responsibilities of the Public Drinking Water Program is found in 10 CSR 60.

## DRINKING WATER SYSTEMS

A **community water system** is a water system having 15 or more service connections and operates on a year-round basis or serves at least 25 residents on a year-round basis. Businesses possibly included in this category are larger mobile home parks, subdivisions and condominiums. This system will need a certified operator.

A **non-transient, non-community water system** serves at least 25 of the same persons over six months of the year but is not a community water system. Businesses possibly included in this category are industries, schools and local government facilities. This system will need a certified operator.

A **transient non-community water system** has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year but is not a community water system. Possible businesses in this category are restaurants, hotels, motels, resorts, airports and campgrounds.

A **private water system** will have less than 15 service connections or will serve an average of less than 25 individuals daily at least 60 days out of the year. Businesses possibly included in this category are small mobile home parks, small campgrounds, automotive repair shops and beauty shops.

Contact the Missouri Department of Natural Resources' Geological Survey and Resource Assessment Division (GSRAD) for well construction requirements. Contact the Environmental Assistance Office or the nearest Missouri Department of Natural Resources regional office to verify the category of the business.

## PERMITS

A **construction permit** is required for all construction whether a new system, expansion, modification or upgrade. Replacement of components of existing facilities does not require a permit if the replacement is primarily maintenance in nature and no significant upgrading is done. There is no fee for this permit. There are annual laboratory services and water customer fees, based on the type of facility and population served.

A **permit to dispense** is required to operate a new, improved or existing public water system. It requires that the water system components provide safe and adequate water supply that is capable of withstanding substantial hazards of weather. There is no fee for this permit, although there are annual laboratory services and water customer fees, based on the type of facility and population served.

# **SOLID WASTE MANAGEMENT**

The Solid Waste Management Program (SWMP) is responsible for the control and regulation of solid (nonhazardous) waste in Missouri. The waste may be generated from commercial, industrial, municipal or residential sites. SWMP also regulates infectious waste and the management of waste tires. The program administers programs created by federal law, the **Resource Conservation and Recovery Act (RCRA)** and state law (the Solid Waste Management Law, Chapter 260.200 - 260.345 RSMo). The portion of the Code of State Regulations (CSR) defining the organization and responsibilities of the Solid Waste Management Program is found in 10 CSR 80.

## **PERMITS**

SWMP is primarily involved with the permitting and regulating of the design, construction and operation of new sanitary landfills. SWMP is also responsible for the proper management and closure of existing landfills, waste tire processing facilities and waste tire storage sites.

Prior to applying for a solid waste disposal area permit, an applicant must first obtain approval for the site's geologic and hydrologic conditions from Missouri Department of Natural Resources' Geological Survey and Resource Assessment Division. Additional air and water permits may be required. Before constructing a solid waste processing facility or a solid waste disposal area, an applicant must first obtain a construction permit from SWMP.

In order to obtain a construction permit, plans, specifications and other data necessary to comply with the Solid Waste Management Law must be submitted to SWMP. Prior to accepting waste at the facility the applicant must apply for and receive an operating permit from SWMP. The operating permit will be issued after the department is assured the facility has been constructed in accordance with the approved plans, specifications and construction permit conditions. The types of solid waste facilities permitted are as follows:

### **Solid Waste Disposal Area Construction and Operating**

A solid waste disposal area (or landfill) is a facility that accepts waste from any commercial, industrial, recreational or governmental operation or more than one residence. There is a multi-step public participation process prescribed by law for these facilities.

### **Solid Waste Processing Facility**

A solid waste processing facility such as an incinerator, compost plant, or transfer station is a facility that accepts municipal solid waste (MSW) for processing or salvaging. Prior to completion of the construction permitting process, a public notice is required and a public hearing will be held upon request.

### **Infectious Waste Processing Facility Construction and Operating**

An infectious waste processing facility accepts infectious waste transferred from an off-site generator for processing or treatment. A hospital that processes or treats its own waste on-site is exempt. Both a construction permit and an operating permit are required. Prior to completion of the construction permitting process, a public notice is required and a public hearing will be held upon request.

### **Waste Tire Collection Center**

A collection center is a site where waste tires are collected prior to recycling or processing and fewer than 500 tires are stored on any given day. This includes whole, baled, shredded, cut or chipped tires. A facility that stores less than 25 tires at any time is exempt.

### **Waste Tire Hauler**

A hauler that transports 25 or more waste tires for consideration or commercial profit must obtain a license. Hauling waste tires generated at a business or residence does not need a permit if the tires are transported by the employees and/or using vehicles of the business. SWMP does not require a public notice or hearing.

### **Waste Tire Processing Facility**

Any facility where tires are reduced in volume by bailing, shredding, cutting, chipping or otherwise altered is required to have this permit. Processing must be done to facilitate recycling, resource recovery or disposal. A public notice or hearing is not currently required for this permit. Exemptions to the permit requirement are:

- The facility does not store more than 24 tires at any time.
- Any business that processes waste tires generated only at that site.

### **Waste Tire Site**

Any facility or location storing 500 or more whole, cut, chipped or shredded waste tires is required to have this permit. A public notice or hearing is not currently required for this permit. A waste tire site permit must include a financial assurance instrument (FAI). The FAI demonstrates the financial capability of the facility owner to properly close the site. A waste tire site must also have tire processing capability and a waste tire processing facility permit in order to qualify for a waste tire site permit.

### **Waste Tire End-User Facility Registration**

Registration is required for any facility where waste tires or waste tire material are used as a fuel, fuel supplement or used to make a product and more than 100 waste tires are used for any purpose.

## **WASTE DIVERSION THROUGH THE THREE R'S**

### **(Reduce, Reuse, Recycle)**

According to the *Missouri Policy on Resources Recovery*, the state of Missouri emphasizes reducing waste disposal and taking full advantage of resource recovery opportunities. Resource recovery means following the hierarchy of waste management as follows:

- First – reduce the amount of solid waste created
- Second – reuse, recycle and compost solid waste to the greatest extent feasible
- Third – recover energy from solid waste
- Fourth – incinerate or dispose of waste in a permitted landfill

Legislation in 1990 focused Missouri's solid waste management efforts by setting a goal to divert at least 40 percent of its waste from disposal. The department provides technical bulletins and other guidance documents to assist individuals, businesses and local governments in achieving the goal. Technical and financial assistance is also available from the department.

To encourage recycling, composting and other alternatives to disposal, solid waste management laws and regulations minimize the permitting requirements for these activities. For example, source separated recycling facilities and yard waste composting facilities are not required to obtain a solid waste permit to operate. The department advises anyone interested in pursuing these types of activities to contact the Solid Waste Management Program at (573) 751-5401.

### **FINANCIAL INCENTIVES**

Incentives designed to promote Missouri's solid waste reduction objectives are provided by grants available through the Solid Waste Management Program's Solid Waste Management Fund and the Environmental Improvement and Energy Resources Authority's (EIERA) Market Development Program. Some of the grant programs available are:

- Missouri Market Development Program
- Solid Waste Management District Grants Program
- Waste Reduction and Recycling Grant Program

Designed to promote recycling and resource recovery and develop markets for recovered materials in Missouri, much of these grant funds are available to small businesses, industry, local governments and individuals. For more details, contact the Solid Waste Management Program (573) 751-5401, EIERA (573) 526-5555, or the Environmental Assistance Office (800) 361-4827.

### **WASTE EXCHANGES**

An additional program available in Missouri to encourage waste reduction is the Industrial Material Exchange Service commonly known as the Waste Exchange. This is a bimonthly catalog coordinated by EIERA. The catalog lists the type and amount of reusable waste generated by a company that could be valuable to another. It is a free service. A Missouri business or citizen may participate by contacting EIERA to list a needless waste or indicate a usable waste they need. If requested, the listing will be included on the National On-line Network for Waste Exchanges. This program can turn a liability into a profit and reduce costs by substituting a waste for a raw product. Additional information can be found at EIERA's Web site: <http://www.dnr.mo.gov/eiera/eiera.htm>.

Contact the Environmental Assistance Office or the Solid Waste Management Program for additional information regarding solid waste disposal areas, solid or infectious waste processing facilities or waste tire concerns.

## **TIER II REPORTING**

The **Emergency Planning and Community Right-to-Know Act** of 1986 established various reporting and notification requirements pertaining to a community's need to know about hazardous chemicals used or stored in their community. These reporting requirements provide the needed information for communities to plan for and respond to emergencies.

### **PURPOSE**

The purpose of the Emergency Planning Community Right-to-Know Act is to provide needed information to citizens about chemical hazards in their communities. Additionally it is intended to provide a means for local and state persons to coordinate with businesses to plan for emergencies. Tier II reporting provides the needed information for local emergency planning committees (LEPC) to develop plans and coordinate responses to potential emergencies. Emergency notification requirements provide the means for communicating real or potential emergencies plus estimating potential health impacts.

Employers that store listed hazardous chemicals over a "threshold planning quantity" (TPQ), are required to report the location and quantities of those chemicals to the local fire department, the LEPC and the Missouri Emergency Response Commission (MERC). In Missouri, this reporting requirement is met by submitting a Tier II form on or before March 1 of each year. These regulations are contained in the Code of Federal Regulations at 40 CFR 355 and 370 and in the Code of State Regulations at 11 CSR 40-4. Those who are subject to these regulations are also required to designate an emergency coordinator who will participate in the local emergency planning process.

In the event of an accidental spill or release of a "reportable quantity" (RQ) of a listed hazardous chemical, LEPC or local fire department, the National Response Center and MERC must be immediately notified. A written follow-up report is also required in these events. These reporting requirements are recorded in 40 CFR 370, 11 CSR 40-4 and 10 CSR 24-3. In Missouri, accident spill reporting to MERC is accomplished by telephoning the Missouri Department of Natural Resources 24-hour Environmental Emergency Response Unit at (573) 635-2436.

For extremely hazardous substances (EHS), a Tier II report is required to be filed with the state and local agencies within 60 days of bringing the chemical on-site over the TPQ. In Missouri, if a facility brings 100 pounds or more of explosives or blasting agents on-site, the owner must inform the fire department within 24 hours. If the explosives are to be on-site for more than 15 days a Tier II report must be provided to the fire department, LEPC and MERC.

Missouri law also requires that buildings, rooms and containers where hazardous chemicals are stored be labeled with markings that conform to the National Fire Protection Association 704 standard.

## REQUIREMENTS

Per 40 CFR 355, there are three basic requirements:

### 1. Emergency Planning Notification

Within 60 days of having an extremely hazardous substance on-site over the TPQ, the facility must report that it is subject to the emergency planning requirements. In Missouri this is accomplished by submitting a Tier II report to MERC.

### 2. Facility Emergency Coordinator Notification

Within 30 days of having an extremely hazardous substance on-site, the facility is required to designate an emergency coordinator. This requirement can be met by submitting the same Tier II form as above to LEPC and MERC. Per the regulations, this person is required to participate in the local emergency planning process.

### 3. Emergency Notification

In the event of an accidental spill or release of a reportable quantity (RQ) of a listed chemical, the facility is required to provide immediate notification to three persons or organizations: the community emergency coordinator (LEPC or fire department); MERC (by calling the 24-hour phone staffed by the Missouri Department of Natural Resources at (573) 635-2436); and the National Response Center at (800) 424-8802.

The initial notification is to provide as much of the following information as is available at the time of the event;

- a) The chemical name or identity of the substance involved
- b) Whether the chemical is an EHS or not
- c) An estimate of the quantity released
- d) The time and duration of the release
- e) The medium or media into which released
- f) Any known or anticipated acute or chronic health risks associated with the emergency and where appropriate, advice regarding medical attention necessary for exposed individuals
- g) The names and telephone number of the person or persons to be contacted for further information.

A written follow-up notification is required to be submitted as soon as practical after a reportable accidental release. This notification is to include the above information along with any updated information, as available. The follow-up notification should also include what actions were taken to respond to and contain the release.

These notification requirements do not apply to releases which result solely in exposure to persons within the boundary of the facility; any release which is a federally permitted release as defined in Section 101 of CERCLA, or any release which is continuous and stable in quantity and rate as defined in 40 CFR 302.8(b). The initial notification and written follow-up report are still required for continuous releases; in addition, other release restrictions may also apply.

There are two basic requirements according to 40 CFR 30

### 1. Annual Tier II Reporting

An annual Tier II report is required if any of the following apply:

- a.) The facility has more than 10,000 lbs. of a “hazardous chemical” for which a Material Safety Data Sheet (MSDS) is required under the Occupational Safety and Health Administration (OSHA) hazard communication standard
- b.) The facility has more than 500 lbs., or the threshold planning quantity (TPQ), whichever is lower, of an “extremely hazardous substance”
- c.) The facility has more than 100 lbs. of explosives on-site for more than 15 days

The Tier II report is due on or before March 1 for the previous reporting year and copies must be supplied to LEPC, the fire department and MERC.

## **2. MSDS Reporting**

Under 40 CFR 370.21 there is an option to either submit MSDS sheets for each hazardous chemical or submit a list of the hazardous chemicals grouped by hazard category. Due to the large number of MSDS submitted by some companies, in Missouri, MERC requests that only a list be submitted. If requested, MSDS must be supplied to the fire department or LEPC.

The easiest way to determine if a facility meets the reporting requirements is by obtaining the EPA publication, “Title III List of Lists”, document # EPA 550-B-01-003. This booklet lists all of the extremely hazardous substances (EHSs) as well as their reportable quantities (RQ) and threshold planning quantities (TPQ). This booklet is no longer published by EPA and is only available on the Internet at: <http://www.epa.gov/ceppo/pubs/title3.pdf>. Those without Internet access can call the Department of Natural Resources’ Environmental Assistance Office at (800) 361-4827 and ask for a copy.

There is no “list” of all the chemicals that may require a MSDS per the OSHA hazard standard. These are simply chemicals that may pose physical or health hazards and are typically characterized as having one or more of the following properties: toxic, corrosive, flammable, or reactive. For more information about these chemicals refer to the OSHA regulations at 29 CFR 1900.1200.

# TOXICS RELEASE INVENTORY

## OVERVIEW

The **Emergency Planning Community Right-to-Know Act (EPCRA)** of 1986, also known as SARA Title III, is essentially made up of two parts, the Emergency Planning portion and the Community Right-to-Know. The Emergency Planning portion requirements were covered under the previous section entitled, Tier II Reporting. The Community Right-to-Know portion is commonly known as the Toxics Release Inventory or Section 313 reporting. It is also sometimes called Form R reporting.

The Form R is the portion of EPCRA that requires all manufacturing industries that manufacture, process, or otherwise use, more than given thresholds of listed toxic chemicals, report the amounts of their releases to the air, land or water. They must report using the Form R submission form and submit reports to the EPA and to the state in which the facility resides. The Missouri Department of Natural Resources Environmental Assistance Office is the responsible agency for Form R reporting in Missouri. Reports are due on July 1 of each year and cover the previous reporting year. Send a copy to both EPA and the Department of Natural Resources.

EPA then makes this information available to the public through two primary publications: the *Public Data Release* for the subject reporting year and the *State Fact Sheets*, which summarize the data for each state. EPA also makes the information available through Internet Web sites.

Before a company is required to report, it must meet three criteria.

1. It must have at least ten (10) full time employees or an annual equivalent of 20,000 employee hours.
2. It must be a manufacturer with a Standard Industrial Classification (SIC) code between 2000 and 3999. In 1998, seven new industries were added that fall outside this range. These industries include the following:
  - Metal Mining SIC 10 (except 1011, 1081 or 1094)
  - Coal Mining SIC 12 (except 1241)
  - Electric Utilities SIC 4911, 4931 and 4939 (limited to facilities that combust coal or oil for the purpose of generating electricity for distribution in commerce)
  - Hazardous Waste Treatment SIC 4953 (limited to those facilities that are regulated under the Resource Conservation and Recovery Act (RCRA) Subtitle C)
  - Chemical and Allied Products SIC 5169
  - Bulk Petroleum Stations SIC 5171
  - Solvent Recovery Services SIC 7389 (limited to facilities that engage in solvent recovery services on a contract or fee basis)
3. A company manufactures (defined to include importing), processes or otherwise uses any EPCRA Section 313 chemical in quantities greater than specified thresholds in the course of a calendar year. For most TRI chemicals, these thresholds are 25,000 lbs. for manufacturing or processing and 10,000 lbs. for otherwise use. There is now a new class of chemicals that have much lower thresholds. These are called PBT chemicals because they are persistent in the environment, they are bioaccumulative and are highly toxic.

These chemicals have thresholds of either 10 or 100 pounds. Dioxin and dioxin-like-compounds (DLCs) have a threshold of 0.1 grams. Lead is now considered a PBT chemical and has a threshold of 100 pounds.

If a company determines that they meet these criteria, they must calculate how much of each of the TRI chemicals they have released to the air, land or water; or have shipped off-site for energy recovery, recycling, treatment or disposal.

Since the enactment of this regulation, the EPA has developed computer software to assist in submitting the TRI or Form R reports. The latest version of this software is called the Toxics Release Inventory Made Easy (TRI-ME). This software allows users to submit data for any reporting year as well as being able to use the new Form A for “small quantities” reporting. The EPA and the state of Missouri encourage electronic submission, which for the state means submitting a completed diskette. The new TRI-ME software does allow a facility to submit on-line to EPA. It will also make the diskette for state submission. Electronic submissions save time for both industry and the government. It also helps reduce data entry errors.

Form R reports must be submitted on or before July 1 of the year following the reporting year. In Missouri the only portion of Section 313 that was incorporated into state law was the state Form R reporting requirement. This is in 11 CSR 40-4.040(3). The federal regulations covering TRI reporting requirements are in 40 CFR 372.

## **PURPOSE**

As its name implies, the purpose of **EPCRA** was to fulfill the basic premise that the citizens in a community have the right to know what types and to what degree they are being exposed to toxic chemicals. TRI provides them with that information. TRI, or Section 313 of EPCRA, does not limit or regulate the amount of toxic chemicals being used or released, it only requires that this information be made public.

TRI has a significant impact on the manufacturing industry because no chief executive officer wants his or her company to be “tops” on this list. It also has the benefit of forcing companies to look at their waste streams and realize that chemicals released to the environment, or shipped off as waste, equate to money and lost profits. Thus, they also have a positive incentive to reduce the amount of wastes or pollution they generate and at the same time increase profits.

## **REQUIREMENTS**

As stated above, if a manufacturer, or any company has a listed SIC code and 10 or more full time employees, and manufactures, processes or otherwise uses a listed TRI chemical, it must report the amounts of their releases of this chemical to the environment.

For most of the listed chemicals or chemical categories, which are listed in EPA’s publication, *Title III List of Lists*, the manufacturing or processing threshold is 25,000 pounds. The otherwise use category is defined as a chemical that is used but does not actually become part of the product, such as solvents used in paints or cleaning solutions used to maintain production equipment. The threshold quantity for otherwise use chemicals is 10,000 pounds. As stated above, the thresholds for PBT chemicals has been lowered to 10 or 100 pounds and dioxin and dioxin-like-compounds have a threshold of 0.1 grams. If a company manufactures, processes or

otherwise uses a listed TRI chemical over these thresholds in a calendar year they must then calculate or determine the amount of this chemical that is released to the environment. They must also determine how much is managed either on-site or off-site by one of the following methods: energy recovery, recycling, treatment or disposal. A variety of management methods and codes are available and can be found in the Form R Instruction booklet supplied by EPA each year to reporting facilities. A copy of this booklet can be obtained by calling the EPCRA Hotline at (800) 424-9346 or by calling the Environmental Assistance Office at (800) 361-4827.

An alternate threshold reporting option was established by EPA in 1994 (published in 59 FR 61488) which allows a facility to report using a shortened form known as Form A. If a facility manufactures, processes or otherwise uses less than 1,000,000 pounds of a listed chemical and would report less than 500 pounds of other waste management of that chemical, it can use the Form A. The Form A cannot be used for the persistent, bioaccumulative and toxic (PBT) chemicals.

As stated above, the TRI Reporting Forms and Instruction booklet can be obtained by calling the EPCRA hotline at (800) 424-9346. This booklet, as well as a variety of other documentation, can be obtained from this telephone number or by downloading from the Internet at: <http://www.epa.gov/tri/>. The TRI-ME reporting software can also be downloaded from this Web site.

The Form R or Form A is required to be submitted to both EPA and the state. The reporting address for EPA can be found on the Form R or the Form A. An appendix in the instruction booklet also lists the addresses for all the state contacts. In Missouri the addresses are as follows:

#### Regular Mail

Missouri Department of Natural Resources  
Environmental Assistance Office  
Attn: Gene Nickel (Form R/A)  
PO Box 176  
Jefferson City, MO 65101

#### Certified Mail

(Same as Above)  
1659 East Elm Street  
Jefferson City, MO 65101

EPA and the state of Missouri prefer that reports be submitted electronically. For the state, this means submitting a 3.5-inch diskette. For EPA, a facility can now report on-line using the TRI-ME software and the EPA Center for Data Exchange (CDX). EPA requires an original signature on the Form R or Form A hard copy reports or the certification letter supplied with the diskette(s). An original signature is not required for the state of Missouri. It is also now possible to use an electronic signature when on-line with EPA at the CDX .

# TOXIC SUBSTANCE CONTROL ACT (TSCA)

The **Toxic Substance Control Act (TSCA)**, originally passed in 1976 and later amended, applies to manufacturers, processors, importers, distributors, users and disposers of chemical substances or mixtures. The federal regulations administered by EPA's Office of Pollution Prevention and Toxics can be found in 40 CFR 700 to 799.

TSCA established a number of new requirements for identifying and controlling toxic chemical hazards to human health and the environment. TSCA gives EPA the authority to gather certain kinds of information on chemical risks from those who manufacture and process chemicals. It also enables EPA to require companies to test selected existing chemicals for toxic effects and requires the agency to review most new chemicals before they are manufactured. To prevent unreasonable risk, EPA may select from a broad range of control actions under TSCA, from requiring hazard-warning labels to an outright ban on the manufacture or use of an especially hazardous chemical. EPA may regulate a chemical's unreasonable risks at any stage in its lifecycle: the manufacturing, processing and distribution in commerce, use or disposal.

TSCA is not a program delegated to the states like many other federal programs. The following eight product categories are exempt from TSCA regulatory authorities: pesticides, tobacco, nuclear material, firearms and ammunition, food, food additives, drugs and cosmetics. Many of these product categories are regulated under other federal laws.

## TESTING OF CHEMICALS

TSCA gives EPA authority to require manufacturers or processors of certain existing chemicals (those already being distributed in commerce) to test the chemical's health and environmental effects. EPA exercises this authority only when it can make certain statutory findings about the substance involved and when industry fails to develop the needed data on its own. These required findings are:

1. that there are insufficient data already available with which to perform a reasonable risk assessment,
2. that testing is necessary to provide such data,
3. that a chemical may present an unreasonable risk of injury to human health or the environment, or
4. that the chemical is produced in substantial quantities resulting in significant human exposure or environmental releases

Testing requirements are imposed only after a rulemaking proceeding, which includes opportunities for both public comments and an oral presentation at a hearing. An Interagency Testing Committee of government experts advises EPA on chemical substances that should be tested; however, actions are not limited to those recommended by the committee. The committee designates priority chemicals for testing. Then, EPA either initiates rulemaking for testing requirements for designated chemicals or publishes the reason why testing is not required.

Chemicals have become a pervasive and enduring part of our environment. They are in our air, water and soil. They are used in manufacturing processes and are essential components for consumer and industrial goods. Prior to 1976 and the enactment of TSCA, there was not a

comprehensive statute that authorized control of untested chemicals for their potential health or environmental effects. In the mid-1970's, public concern was growing over ineffective regulation of risky chemicals such as vinyl chloride, mercury, polychlorinated biphenyls (PCBs) and asbestos.

Since the enactment of TSCA, EPA has screened more than 70,000 new toxic chemicals before they were introduced into the stream of commerce. The most effective time to prevent unreasonable risks to public health and the environment is prior to first manufacture. The manufacturing of new chemical substances without providing EPA with its statutory 90 day review period to review the chemical substance creates a risk of harm to health and the environment that Congress regards as unacceptable. As a result of their prescreening chemical review, more than 500 chemicals are subject to specific EPA administrative orders requiring workplace or manufacturing controls thereby protecting and improving public health and the environment.

### **NOTIFICATION**

TSCA recognizes that health and environmental considerations are more easily addressed before, rather than after a chemical is produced and introduced into commerce. Thus, manufacturers or importers of a new chemical must give EPA a 90 day advance notification of their intent to manufacture or import a new chemical, except for those chemical categories specifically excluded by TSCA. Chemicals produced in small quantities solely for experimental or research and development purposes are automatically exempt from the premanufacture and significant new use notification requirements. In addition, any person may apply for an exemption for chemicals used solely for test marketing purposes or those determined by EPA not to present an unreasonable risk of injury to human health or the environment.

### **DISPOSAL**

Once a particular chemical is determined to be an unreasonable risk to human health and the environment, TSCA has the authority to regulate the disposal stage of a chemical's life cycle on a chemical-by-chemical basis. RCRA has the authority to establish regulations and programs to ensure safe waste treatment and disposal of any number of chemicals and generally deals with waste streams, rather than individual chemicals.

TSCA also requires any person who manufactures, processes or distributes in commerce any chemical substance or mixture to keep records of significant adverse reactions to health or the environment that allegedly were caused by the chemical. Records concerning health effects on employees must be kept for 30 years; other records must be retained for 5 years. EPA will not disclose confidential data, such as trade secrets and privileged financial data.

All health and safety information, submitted under TSCA, on chemicals in commerce is subject to disclosure. A person submitting other types of data to EPA may designate any part of them as confidential. EPA will treat such information as confidential until the agency determines that the information is not entitled to such protection. If the release of confidential business information is essential for the protection of the health or the environment, EPA may disclose it after notifying the persons who submitted the data, in advance of any contemplated release.

## ENFORCEMENT

EPA can inspect any establishment in which chemicals are manufactured, processed, imported to, stored or held before or after the chemical distribution in commerce. No inspection shall include financial, sales, pricing, personnel, or research data, unless specified in an inspection notice. The agency can subpoena witnesses, documents and other information as necessary to carry out TSCA. Civil actions concerning violations of or lack of compliance with TSCA may be brought to an U.S. District Court to restrain or compel the taking of an action. Any chemical substance or mixture that was manufactured, processed or distributed in commerce in violation of TSCA may be subject to seizure.

## ASSISTANCE

EPA has established an office to provide technical and other non-financial assistance to chemical manufacturers, processors and others who are interested in requirements and activities under this law. To understand TSCA requirements, the TSCA Assistance Information Service (TAIS) has a telephone information service at (202) 554-1404 and technical assistance upon request. EPA's Office of Pollution Prevention and Toxics (OPPT) publishes a quarterly newsletter titled *Chemicals in our Community*. This newsletter provides information on chemicals as well as OPPT's programs and services.

## TSCA AMENDMENTS – RADON AND LEAD-BASED PAINT

The **Asbestos Hazard Emergency Response Act (AHERA)** of 1986 added Title II to TSCA. This amendment established the asbestos abatement program in schools. In 1988, TSCA was amended by the **Indoor Radon Abatement Act**, which added Title III regulating radon. This amendment gave EPA the authority to address the growing concern over dangers posed by indoor radon exposure. It directed EPA to identify areas of the United States that have the potential to produce elevated levels of radon.

**Radon** is a colorless, odorless, radioactive gas that has been found in buildings, homes, schools and workplaces. Any building can have a radon problem, regardless of whether it is new, old, well sealed or drafty, or with or without a basement. Radon comes from the natural breakdown of uranium in soil, rock and water and gets into the air. Radon typically moves up through the ground to the air above and into buildings through cracks and other holes in the foundation. Homes or offices trap radon inside. Sometimes radon enters a building through well water. Radon can cause lung cancer and is second only to smoking as a cause of lung cancer in America.

EPA provides publications with information needed to make knowledgeable radon decisions. EPA has developed radon testing protocols. EPA's Radon Measurement Proficiency Program is designed to help the public get reliable radon tests and follow quality assurance and test guidelines. EPA issues radon measurement proficiency reports for every state. This information is available to the public so that informed decisions regarding radon can be made.

For radon information and guidance when selecting a radon testing or mitigation business, contact the Missouri Department of Health and Senior Services, Bureau of Environmental Epidemiology at (573) 751-6102 or 1-800-628-9891. Additional information can be found at <http://www.epa.gov/ebtpages/airairporadon.html>.

## TOXIC SUBSTANCE CONTROL ACT (TSCA)

In response to continuing concerns about **lead** poisoning among American children, Congress passed the **Housing and Community Development Act** of 1992, which included the **Residential Lead-Based Paint Exposure Reduction Act**. This act amended several existing housing, worker safety and environmental statutes and amended the Toxics Substance Control Act by adding Title IV: Lead Exposure Reduction.

Title IV does not restrict lead-based paint activities but ensures that individuals engaged in such activities are properly trained, that training programs are accredited and that businesses engaged in such activities are certified. Title IV also requires EPA to establish standards for performing lead based paint activities that are reliable, effective and safe.

The Department of Health and Senior Services handles the licensing of lead abatement contractors. They can be reached at:

Missouri Department of Health and Senior Services

Bureau of Lead Licensing

PO Box 570

Jefferson City, MO 65102-0570

Telephone: (573) 526-5873

(888) 837-0927

Fax: (573) 526-0441

<http://www.dhss.state.mo.us/Lead/websitehtml.htm#Waste>

A good lead resource is the National Lead Information Center (NLIC). NLIC is a national resource center that supplies information about the hazards of lead-based paint and other environmental sources of lead. Its goal is to help citizens understand the sources of lead in the home and how to control lead hazards for the protection of children and adults. NLIC also operates a clearinghouse that distributes a variety of documents on lead hazards and lead hazard prevention. For additional information contact the National Lead Information Center (NLIC) at (800) 424-LEAD or visit its Web site at <http://www.epa.gov/lead>.

# WATER POLLUTION CONTROL

The basic framework for the current national water quality programs was put in place by Congress with the enactment of the **Federal Water Pollution Control Act (FWPCA)** of 1972 and the **Marine Protection, Research and Sanctuaries Act** of 1972. The **Clean Water Act (CWA)** of 1977 reorganized the FWPCA and added a major new program to control toxic water pollutants. Of the subsequent amendments to these statutes, the most significant are the **Water Quality Act** of 1987, which addressed storm water discharges, and the **Oil Prevention Act** of 1990, which tightened control of discharges of oil and hazardous substances.

In Missouri, the Water Protection Program's water pollution control branch (WPCB) is responsible for protecting, maintaining and improving the quality of Missouri's water. This entails prevention, abatement and regulating wastewater discharges from commercial, industrial and municipal sites in order to protect surface and ground water from contamination. The primary state enabling legislation is the Missouri Clean Water Law, Chapter 644 (RSMo). The portion of the Code of State Regulations (CSR) defining the organization and responsibilities of WPCB is recorded in 10 CSR 20.

The primary purpose of CWA is to restore and protect the quality of the nation's surface waters. As originally approved, the ultimate goal of the act was to eliminate the discharge of pollutants into navigable waters. The surface waters covered by the act are defined quite broadly and include rivers, lakes, intermittent streams and even wetlands. Federally, the definition does not extend to ground water, which is covered by the **Safe Drinking Water Act**. Missouri's clean water law includes groundwater in the definition of "waters of the state".

CWA established the National Pollutant Discharge Elimination System (NPDES) to limit pollutant discharges into streams, rivers and bays. EPA regulations can be found in 40 CFR 122. WPCB administers the program in Missouri. It requires state operating permits for all point source discharges to waters of the state. EPA maintains authority to review applications and permits for major dischargers, based on discharge quantity and content.

The federal Clean Water Act requires cities and urbanized counties having populations over 100,000 to develop storm water management plans and obtain discharge permits for storm water outfalls. In Missouri this program is handled by WPCB, which issues NPDES permits. Companies must submit applications to WPCB to ensure that storm water discharges that enter streams directly from industrial facilities are also permitted.

## PERMITS

### Wastewater Construction Permit

If a business is located in an area where no wastewater treatment facilities are available, wastewater treatment for the business may be regulated by the Missouri Department of Natural Resources or by the Missouri Department of Health and Senior Services. The regulating authority is determined by the quantity of wastewater produced and whether the wastewater is considered domestic or industrial. Domestic wastewater or sewage is defined as human excreta and wastewater, including bath and toilet waste, residential laundry waste, residential kitchen waste and other similar waste from household or establishment plumbing.

If the business will dispose of domestic wastewater with a system that has a design flow of less than 3,000 gallons per day to an approved no discharge soil absorption system, the business will be regulated by the Department of Health and Senior Services. Contact the Department of Health and Senior Services (573) 751-6095 or the local county health department for more information.

If the business will be producing 3,000 gallons per day (design flow) or more of domestic wastewater or will be producing industrial wastewater, the business is required to get a construction permit and a state operating permit from the Missouri Department of Natural Resources' water pollution control branch. Contact the Environmental Assistance Office (EAO) or the local regional office for application information.

If the business is located in an area where wastewater utility services are available, the municipality, sewer district or private sewer company responsible for the wastewater treatment facilities should be contacted for information about approvals, costs and procedures for connection. Unless waived by the local authority, connection to an existing system is required.

### **Industrial Pretreatment Permit**

If a business is located in an area where wastewater utility services are available and the business will be discharging industrial waste into the sewer system, an industrial pretreatment permit may be required. These permits will be issued by the wastewater system if it has a local pretreatment program approved by the Missouri Department of Natural Resources. If not, the permit will be issued by the department. A construction permit may also be required by the department.

### **National Pollutant Discharge Elimination System (NPDES)**

An NPDES permit, required for operating a sewer or sewage treatment plant, is referred to as a **state operating permit**. Land application of sludge and wastewater can be included under the same site-specific operating permit if the site is within a 20-mile radius. A facility may choose to apply for a general permit where available.

A general permit may be developed for a specific category of discharge or activities. The general permit contains a standard set of requirements. There are general permits for the land application of food processing wastewater and sludge and domestic sewage sludges including septage from a septic tank. A general permit must be obtained for each operating location that is not contiguous. The department may choose to require a permit on a case-by-case basis where determined to be necessary to protect human health and the environment.

Some **concentrated animal feeding operations** (CAFO) are required to have a **No-Discharge State Operating Permit**. Any operation where the animals are confined may require a No-Discharge State Operating Permit. This general permit does not apply to pasture operations. A certified operator may be required. Contact the Environmental Assistance Office's rural assistance unit regarding any questions concerning CAFOs.

A state operating permit is required where there will be storm water runoff from certain industries. A state operating permit for storm water is also required if construction activity will disturb one or more acres of land. General storm water permits are available for many industries

in Missouri. Some industries with general storm water permits are lumber and wood processors, chemical manufacturers and motor freight transportation.

#### **404 Permit**

When construction or filling (including dredging or installing and repairing utility lines) disturbs waters of the United States, including wetlands, a permit is required from the U. S. Army Corps of Engineers. Section 404 of the Clean Water Act requires a permit to excavate in or discharge dredged or fill material into waters of the United States.

Construction activities can be authorized in waters of the United States when the discharges of dredged or fill material meet the requirements of the federal Clean Water Act, Endangered Species Act, and National Wild and Scenic Rivers Act. Permits may be required even if the work is on private land. If the work is in a water area, or where water lays or runs part of the year, the activity may be regulated by federal law. Individuals, commercial enterprises, port authorities, marinas and local, state and federal agencies need a 404 permit to work in waters of the United States.

Under Section 10 of the **Rivers and Harbors Act** of 1899, a permit may be required from the Corps of Engineers for any structure or work that takes place in, under or over a navigable water or wetland adjacent to navigable waters of the United States. The Corps of Engineers requires a completed federal application form with appropriate drawings and a copy of the letter sent to the Missouri Department of Natural Resources requesting Section 401 Water Quality Certification. Contact a Corps of Engineer regulatory branch with any questions:

### **ARMY CORP OF ENGINEERS**

#### **MO State Regulatory Ofce**

221 Bolivar St., #103  
Jefferson City, MO 65101  
(573) 634-5657

#### **Little Rock District**

P.O. Box 867  
Little Rock, AR 72203  
(501) 324-5295

#### **Rock Island District**

Box 2004  
Clock Tower Bldg  
Rock Island, IL 61204-2004  
(309) 794-5373

#### **Kansas City District**

700 Federal Building  
601 E. 12<sup>th</sup> St.  
Kansas City, MO 64106  
(816) 983-3990

#### **Memphis District**

Clifford Davis Federal Bldg  
Room B-202  
Memphis, TN 38103-1894  
(901) 544-3471

#### **St. Louis District**

1222 Spruce St.  
St. Louis, MO 63103  
(314) 331-8575

The following Web sites can be used to find the local district:

<http://www.dnr.mo.gov/wpscd/wpcp/401/corps-map3.gif>

or

<http://www.usace.army.mil/where.html#State>

### **401 Water Quality Certification**

Section 401 of the Clean Water Law requires an applicant for a federal permit, for an activity that may result in a water quality problem in navigable waters, to provide the federal agency an approval from the state water quality agency. In Missouri, WPCB issues 401 Water Quality Certifications. A letter requesting water quality certification for the proposed project and one copy of the federal application including drawings should be sent by the applicant to the Missouri Department of Natural Resources' Water Pollution Control Program. Contact EAO or WPCB for information regarding 401 Water Quality Certification.

### **SLUDGE**

The **Clean Water Act** requires EPA to establish minimum national standards for the use and disposal of domestic sludge. Sludge means solid, semi-solid or liquid residue removed during the treatment of domestic wastewater. EPA specifies the technical standards for sludge use and disposal in the federal rule, Title 40 Code of Federal Regulations Part 503, (40 CFR 503). This regulation contains risk-based limitations for metals and pathogens and includes best management practices. Sludge permit requirements for the National Pollutant Discharge Elimination System (NPDES) can be found in 40 CFRs 122, 123 and 501.

EPA, Region 7, handles the compliance assessment and enforcement of the 503 regulations. State operating (NPDES) permits are issued with the sludge requirements addressed in the Missouri Clean Water Law.

### **Compliance**

From production to disposal, the generator of the sludge is responsible for complying with all sludge standards and permit requirements. The generator is the person owning the wastewater treatment facility producing the sludge. An exception is the single family, residential septic tank. In this case, the septage hauler is the responsible party, rather than the homeowner.

The generator remains responsible for sludge disposal unless the sludge is hauled to another permitted sludge use or disposal facility. A contract hauler is considered an agent of the generator. The use of a contract hauler does not relieve the generator of the responsibility under the EPA regulations, unless the hauler obtains a separate sludge permit.

### **Construction Permits**

A state **construction permit** is required for all persons who build, erect, alter or replace facilities for sludge or biosolid storage, treatment or disposal. Each construction permit application must include engineering plans and specifications. Plans must be developed according to design regulations published in the Missouri Code of State Regulations (CSR) under 10 CSR 20. The Department of Natural Resources will review the application. A public notice of the proposed permit action is then issued for a 30 day comment period. After resolving the public comment, the department issues a construction permit. The sludge management system must be built according to the approved design. A professional engineer (P.E.) must certify the complete construction.

### **Operating Permits**

Missouri's sludge regulations are incorporated into the standard conditions of the **state operating (NPDES) permit**. A state operating permit is required for all persons who operate, use or maintain facilities for the storage, treatment or disposal of sludge or biosolids.

For sludge generators, the sludge requirements are included in the wastewater discharge (NPDES) permit. For those who are not a generator, but who operate a sludge use or disposal facility, a sludge-only permit is required. For new facilities, the operating permit application must include certification by a P.E. that the facility was built according to the construction permit.

For an existing facility built without a construction permit, the application must include as-built engineering plans and specifications. The facility must go through the same public notice procedure as a new construction project.

### **Disposal and Reuse Requirements**

Sludge that is not reused as biosolids must be disposed in a permitted sludge disposal facility. There are two types of disposal: surface disposal and incineration. Surface disposal sludge requires a solid waste disposal permit under the Missouri Solid Waste Management Law. The corresponding regulation can be found in 10 CSR 80-3. This applies to sanitary landfills, sludge monomials, sludge disposal lagoons and other types of sludge disposal on land. Sludge disposal lagoons include any sludge-only lagoon that has more than two years accumulation of sludge, unless an alternate storage and clean out plan has been approved by the department and EPA.

The incineration of sludge must comply with air emission standards. The ash must comply with all other sludge use or disposal standards. Incinerating the sludge concentrates the metals and other inorganic pollutants in the ash, but does not reduce the environmental risks from these pollutants. Ash disposal must meet the same surface disposal requirements as other sludges.

Biosolids are treated sludge that has met the sludge standards for use as a fertilizer or soil conditioner. These standards include meeting metal limitations, pathogen reduction, vector requirements and best management practices.

### **Septage Requirements**

Sludge pumped from residential septic tanks and similar treatment works is considered septage. However, septage has fewer requirements for treatment and monitoring than other types of sludge. A general permit covers requirements for the land application of septage. Contract haulers for septage are responsible for complying with sludge standards and must obtain permits if they store, treat, land apply or dispose of septage. Septage may also be mixed with other sludges. The more stringent set of sludge standards would apply to the mixture.

### **Recordkeeping and Reporting**

Annual sludge reports are due Jan. 28 of each year for the previous calendar year period. Report forms (Form S) are provided by the Missouri Department of Natural Resources and are approved for use by EPA. This means Missouri permit holders may use the same form for reporting to both the Missouri Department of Natural Resources and EPA. Keep detailed reports on file for at least five years. These records must be made available for inspection by the department. The

## WATER POLLUTION CONTROL

department's regional offices will continue to handle permitting issues, complaints and lagoon closure plans. General sludge questions are to be directed to the Environmental Assistance Office (800) 361-4827. Cynthia Sans, (913) 551-7492 is the contact for the 503 program at EPA, Region 7.

# WELLHEAD PROTECTION

The wellhead protection section (WHP) regulates the construction of water wells such as domestic and multiple family wells, irrigation wells, monitoring wells and heat pump wells. In addition, WHP regulates oil and gas wells, gas storage wells, injection wells used in the oil and gas industry, test hole borings, well modification and proper plugging (abandonment) of all types of wells. The purpose of the regulations is to protect groundwater resources from contamination by ensuring wells are constructed to minimum standards and that abandoned or damaged wells are properly plugged.

The enabling state legislation for water and non-oil and gas well construction is the “Well Drillers Act”, Sections 256.000 to 256.640 RSMo (initial statute 1985) and “Oil and Gas Production Law”, Sections 259.010 to 259.240 RSMo (initial statute 1965) for oil and gas wells. The portions of the Code of State Regulations (CSR) that govern and outline WHP’s responsibilities and requirements are found in 10 CSR 23 (for water and non-oil and gas wells) and 10 CSR 50 (for oil and gas wells).

Well construction requirements vary based on well usage, the rate of water production and geologic conditions. Approximately 8,000 to 10,000 new wells are constructed per year. WHP funds its activities primarily through contractor permit (license) fees and well certification fees (a \$35 fee paid by well owners).

## PERMITS

Missouri does not require permits for the construction of non-public water wells, monitoring wells, heat pump wells or test hole borings, nor for the modification or plugging of wells. However, all wells must be constructed, modified or plugged in accordance with state standards and be properly reported to the state within 60 days after completion of work.

**Contractor permits (licenses)** are issued to professional well drillers, pump installers, heat pump installers and other regulated contractors who meet minimum qualifications and pass an examination. Permits are renewable on a yearly basis. Issuing permits to contractors establishes a minimum standard of competency and enables the state to enforce minimum construction standards.

**Oil and gas permits** are required before oil or gas wells can be drilled or deepened, or before a well can be injected with fluid to enhance oil or gas production. Unlike water well permits, which are issued to contractors, oil and gas permits are issued for a specific well. The permit must be obtained before drilling commences and a bond is required to insure proper well abandonment once the well is depleted.

## REPORTS

**Certification reports** contain important information about new well construction and new pump installation. The well and/or pump contractor must send these records to WHP within 60 days of well completion. If the certification report documents that construction meets minimum standards, a certification number is assigned and the owner receives a postcard with the certification number.

**Registration reports** document work on existing wells, including such activities as lining, deepening, repairing, altering or plugging wells. These records must also be sent to WHP within 60 days of work completion.

The Oil & Gas Production Law requires the submittal of completion reports after a well is drilled and abandonment reports after a well is plugged. It also requires the submittal of production reports if oil or gas is produced commercially, and injection reports if produced water is reinjected for disposal or secondary recovery purposes. Completion and abandonment reports must be submitted monthly to WHP within 30 days of the end of the reported month.

**MISSOURI DEPARTMENT OF NATURAL RESOURCES**  
**Water Protection and Soil Conservation Division**  
**REGIONAL OFFICES**

Kansas City Regional Office  
500 N.E. Colbern Road  
Lee Summit, MO 64086-4710  
(816) 622-7000      fax: (816) 622-7044

Northeast Regional Office  
1709 Prospect Drive  
Macon, MO 63552-2602  
(660) 385-2129      fax: (660) 385-6398

Southeast Regional Office  
2155 Westwood Blvd.  
P.O. Box 1420  
Poplar Bluff, MO 63901-1420  
(573) 840-9750      fax: (573) 840-9754

Southwest Regional Office  
2040 W. Woodland St.  
Springfield, MO 65807-5912  
(417) 891-4300      fax: (417) 891-4399

St. Louis Regional Office  
7545 S. Lindbergh, Suite 210  
St. Louis, MO 63125  
(314) 416-2960      fax: (314) 416-2970

**MISSOURI DEPARTMENT OF NATURAL RESOURCES**  
**Water Protection and Soil Conservation Division**  
**SATELLITE OFFICES**

**Franklin County Satellite Office**

Meremec State Park  
Hwy. 185 S.  
Sullivan, MO 63080  
(573) 860-4308  
(573) 468-5051 fax

**Jefferson County Satellite Office**

Eastern District Parks Office  
Hwy. 61  
Festus, MO 63028  
(636) 937-3697  
(636) 933-5058 fax

**Lake of the Ozark Satellite Office**

Camden County  
5568 A Hwy 54  
Osage Beach, MO 65065  
(573) 348-2442  
Mailing Address:  
P.O. Box 176  
Jefferson City, MO 65102-0176

**Lincoln County Satellite Office**

Cuivre River State Park  
678 State Rt. 147  
Troy, MO 63379  
(636) 528-4779

**Mississippi River Project Office**

Wakonda State Park  
Rt. 1 Box 242  
LaGrange, MO 63448  
(573) 655-4178

**Neosho / Joplin Area Satellite Office**

1900 S. 71 Highway  
Neosho, MO 64850  
(417) 455-5155  
Mailing Address:  
2040 W. Woodland  
Springfield, MO 65807-5912

**Taney/Stone County Satellite Office**

Table Rock State Park  
2037 State Hwy. 165  
Branson, MO 65616  
(417) 337-9732

# **LOCAL AIR POLLUTION CONTROL AUTHORITIES**

Kansas City Health Department  
Air Quality Program  
2400 Troost Ave., Suite 3000  
Kansas City, MO 64108  
(816) 513-6314      fax: (816) 513-6290

City of St. Louis  
Division of Air Pollution Control  
1415 N. 13<sup>th</sup> St.  
St. Louis, MO 63106  
(314) 613-7300      fax: (314) 613-7275

St. Louis County Department of Health  
Air Pollution Control Section  
111 S. Meramec Ave.  
Clayton, MO 63105  
(314) 615-8923      fax: (314) 615-8951

Springfield-Greene County  
Air Quality Control  
227 E. Chestnut Expressway  
Springfield, MO 65802  
(417) 864-1662      fax: (417) 864-1499

# MISSOURI DEPARTMENT OF NATURAL RESOURCES ENVIRONMENTAL ASSISTANCE OFFICE

## BUSINESS UNIT STAFF 1-800-361-4827

NAME	TITLE	AREAS OF EXPERTISE
Byron Shaw	Unit Chief Environmental Engineer	Air Pollution Water Pollution
Nancy Morgan	Environmental Engineer St. Louis Regional Office (314) 301-7100	Air Pollution Environmental Management Systems (EMS) Hazardous Waste
Gene Nickel	Environmental Engineer	Pollution Prevention Toxics Release Inventory Underground Storage Tanks
Gus Ralston	Environmental Engineer Kansas City Regional Office (816) 622-7000	Air Pollution Hazardous Waste Solid Waste
Omer Roberts	Environmental Engineer	Air Pollution Drinking Water Land Reclamation
Cynthia Smith	Environmental Engineer	Water Pollution
Layli Terrill	Environmental Engineer	Water Pollution Air Pollution
Lucy Thompson	Environmental Engineer	Air Pollution Hazardous and Universal Waste Used Oil Environmental Management Systems (EMS)

# DEFINITIONS

**Applicable requirements** -- Neither the state nor the federal operating permit program contains extensive substantive requirements of its own. Both serve as vehicles for identifying all requirements applicable to the source. These requirements can include, but are not limited to, compliance, record-keeping, reporting, emission controls, emission limits, work practices, operating hours and other matters stemming from federal and state air laws and regulations and permits issued to allow construction or modification of the facility.

**Area Source** -- Any stationary source that is not a major source.

**Best Available Control Technology (BACT)** -- That pollution control method that is recognized as the one removing the greatest amount of air pollutants for a particular industry or process. Cost is considered in requiring BACT.

**Biosolids** -- Organic fertilizer or soil amendments produced by the treatment of domestic wastewater. Biosolids consist primarily of dead microbes and other organic matters. Untreated sludge or sludge that does not conform to related pollutants and pathogen treatment requirements are not considered biosolids.

**Closure** -- The act of securing a waste management facility in compliance with applicable requirements.

**Criteria Pollutant** -- Any air pollutant for which EPA has established a National Ambient Air Quality Standard (NAAQS): carbon monoxide, lead, nitrogen oxides, ozone, particulates and sulfur oxides. Criteria pollutants are measured in air quality control regions to determine whether the area meets or does not meet the federal air quality standard.

***De minimis* level** -- The threshold level of emissions where regulations apply.

**Discharge to State Waters** -- Release of pollution from a ditch, pipe or other conveyance to surface waters (lake, stream, creek, river or tidal wetland).

**Domestic wastewater** -- Wastewater from restrooms, sanitary conveniences of residences, cities, mobile home parks, subdivisions, restaurants, rest homes, resorts, motels, factories, stores and other commercial businesses. It also includes industrial contributions when domestic and industrial wastewater are combined in a city sewer system.

**Emission Unit** -- Any part or activity of an installation that emits or has the potential to emit any regulated air pollutant.

**Fugitive emissions** -- Emissions, which according to good engineering practice could not pass through a stack, chimney, vent or other functionally equivalent opening.

**General Permit** -- A set of conditions that can be standardized for a number of facilities; use of general permits where possible eliminates individualized permits for similar situations and is cheaper and less burdensome administratively than individual permits.

**Grandfathered** -- A facility that was in existence before May 13, 1982. This applies to air pollution sources only.

**Hazardous Air Pollutant (HAP)** -- One of 188 substances and compounds for which EPA is establishing Maximum Achievable Control Technology (MACT) standards. A major source of HAPs is considered one that emits 10 tons per year of a single HAP or 25 tons per year of multiple HAPs.

**Hazardous Waste** -- Specific wastes listed by EPA and any other wastes that meet the definition of corrosive, ignitable, reactive or toxic.

**Installation** -- All source operations, including activities that result in fugitive emissions, that belong to the same industrial grouping (that have the same two (2)-digit code as described in the Standard Industrial Classification Manual, 1987) and any marine vessels while docked at the installation, located on one (1) or more contiguous or adjacent properties and under the control of the same person (or persons under common control).

**Land Application** -- The incorporation of wastewater or sludge into the soil to either condition the soil or fertilize crops or vegetation grown in the soil.

**Like-kind** -- Refers to equipment that is essentially identical to or performs mechanically the same function as the equipment being replaced. The new equipment cannot cause any appreciable change in the quality or nature of the emissions of any air contaminant, or result in any increase in the potential to emit or the effect on air quality.

**Lowest Achievable Emission Rate (LAER)** -- The air emission rate that is the lowest possible for a type of facility for a specific pollutant; required of air pollution sources in air quality nonattainment areas.

**Major Source** -- Any source defined as major under the Prevention of Significant Deterioration program; in a nonattainment area; or all other sources not meeting the definition of PSD or nonattainment area who emit 100 tons per year of a regulated pollutant. For sources subject to federal MACT rules, a major source is one that emits 10 tons per year of a single hazardous air pollutant or 25 tons per year of any combination of hazardous air pollutants.

**Maximum Achievable Control Technology (MACT)** -- The maximum degree of reduction in air pollution for new and existing sources, taking into consideration cost, non-air quality health and environmental impacts, and energy requirements.

**Named Installations** -- A list of installations found in 10 CSR 10-6.020 (3)(A) and in Table II of this document. This list is used in the air construction and operating permit rules to identify types of sources of air pollution that must include fugitive emissions when determining the potential to emit.

**National Ambient Air Quality Standards (NAAQS)** -- Maximum allowable concentrations of pollutants that EPA may reasonably anticipate pose a danger to public health or welfare. When violated, the standards cause an area to be designated a nonattainment area.

**National Emissions Standards for Hazardous Air Pollutants (NESHAP)** -- Standards for asbestos, benzene, beryllium, inorganic arsenic, mercury, radionuclides and vinyl chloride.

**New Source Performance Standards (NSPS)** -- Technology-based limits on air pollutants from new and modified sources.

**Nitrogen Oxides (NO<sub>x</sub>)** -- Oxides of nitrogen and is defined as the sum of the concentrations of NO<sub>2</sub> and NO, where NO<sub>2</sub> means nitrogen dioxide and NO means nitrogen oxide.

**Nonattainment Area** -- A geographic area that violates the National Ambient Air Quality Standards.

**Pilot Plants** -- Installations or emission units that are of new type or design which will serve as a trial unit for experimentation or testing and not production.

**Potential to Emit (PTE)** -- The emission rate of any air pollutant at maximum design capacity. Annual potential is based on the maximum annual-rated capacity of the installation assuming continuous year-round operation. Federally enforceable permit conditions on the type of materials combusted or processed, operating rates, hours of operation or the application of air pollution control equipment must be used in determining the PTE.

**Pretreatment** -- Specialized industrial wastewater treatment, performed at the source, that makes the wastewater suitable for discharge to a public sewage system.

**Prevention of Significant Deterioration (PSD)** -- An air pollution permitting program intended to ensure that air quality does not diminish in attainment areas.

**Publicly Owned Treatment Works (POTW)** -- A sewage treatment works, normally for treatment of sanitary sewage, owned by state government, local government, utility authority or community.

**Radon** -- A colorless, odorless, radioactive gas that has been found in buildings, homes, schools and workplace. It comes from the natural breakdown of uranium in soil, rock and water.

**Septage** -- The biodegradable waste from septic tanks and similar treatment works. Septage includes the sediment, water, grease, and scum pumped from a septic tank.

**Site-specific Permit** -- An operation permit that is developed with limitations based on a case-by-case review of site specific conditions.

**Sludge** -- Solid, semi-solid or liquid residue removed during the treatment of domestic wastewater.

**Sludge Lagoon** -- An earthen basin that receives only sludge that has been removed from a wastewater treatment facility. It does not include wastewater treatment lagoons or sludge treatment units that are a part of a mechanical treatment.

**State Implementation Plan (SIP)** -- A plan through which a state institutes air quality protection measures that meet federal criteria. When approved by EPA, the state is delegated federal authority for air quality regulation.

**Stationary Source** -- An air pollution source permanently located in a single location.

**Storm Water** -- That portion of rainfall that does not infiltrate into the soil or evaporate.

**Temporary Installation** -- An installation or air emission unit which operates or emits pollutants for less than two years.

**Volatile Organic Compound (VOC)** -- According to the Clean Air Act, VOC means any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, that participates in atmospheric photochemical reactions to produce ozone. A list of exempt compounds is found in 10 CSR 10-6-0.020 Definitions and Common Reference Tables.

**Waste Tire** -- A tire that is no longer suitable for its intended purpose because of wear, damage or defect.

**Wetlands** -- Areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, under normal circumstances, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.